# Applied echanics Leviews

**Annual Index:** 

INDEX TO VOLUME 48 (1995)

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## Applied Mechanics Reviews

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The American Society of Mechanical Engineers

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# ABBREVIATIONS USED IN APPLIED MECHANICS REVIEWS

academy, academia, academic	acad
acoustical, acoustics	acoust
administration	admin
advanced, advances aerodynamics	adv aerodyn
aeronautical, aeronautics	aeronaut
agricultur-e, -al	agri
Air Force Base Am Inst of Aeronaut & Astronaut	AFB
1633 Broadway	
New York NY 10019	AIAA
Am Inst of Chem Eng	4 F/75 TV
345 E 47 St, New York NY 10017 Am Inst of Phys	AIChE
345 E 45 St, New York NY 10017	AIP
America, American	Am
Am Soc for Testing and Mat	01 40714
1916 Race St, Philadelphia PA 191 Am Soc of Civil Eng	IUS ASIM
345 E 47 St, New York NY 10017	ASCE
Am Soc of Heating Refrigeration	
and Airconditioning Eng	
1791 Tullie Circle NE Atlanta GA 30329	ASHRAE
Allanta GA 30329 Am Soc of Mech Eng	ASTRAE
345 E 47th St	
New York NY 10017	ASME
Applied Mechanics Reviews	AMR
analysis, analytic, analytical angewandte	anal
applied, application	appl
Architecture, architectural	architec
Archive, Archivum, Archivum	Arch
Argonne Natl Lab Argonne IL 60439	ANL
association, associates	assoc
astronomy, astronomical	astron
astronautical, astronautics	astronaut
atmosphere, atmospherical Australian	Austral
automatic, automation	autom
biomedical	biomed
boite postale	BP
Boundary Element Method	BE
Boundary Element Method Brookhaven Natl Lab	BEM
Upton NY 11973	BNL
building, builders	build
Bulletin Canadian	Bull
Canadian	celest
Centre National de la	
Recherche Scientifique	CNRS
chemical, chemistry City College of the City Univ of NY	chem
New York NY 10031	CCNY
College	Col
combustion	combust
Commonwealth Sci and	CSIDO
Indust Res Org communication	CSIRO
Comptes Rendus	CR
computer, computational	comput
Computer-Aided Design conference	CAD
conference construction	conf
construction	Conv
Cornell University,	
Ithaca NY 14853	Cornell
David Taylor Naval Ship Res and Dev Center	Neppe
Res and Dev Center degree(s) of freedom	NSRDC dof
department	dept
design	des
development, developmental	dev
Deutsche Forschungs- und Versuchs: für Luft- und Raumfahrt	DFVLR
division	div
dynamics	dyn
east, eastern	E
edition, editor, edited (by)	ed educ
education, educational	educ
	elast
elastic, elasticity electrical, electricity	elast

SED IN AFF
engineer, engineering
environment, environmental equilibrium
Establishment
evaluation experimental
explosion faculty
Federal, Federation
Finite Element Finite Element Method
Foundation
Fundamental(s) geology, geological
Georgia Institute of Technology,
Atlanta GA 30332 Graduate
hydraulic identification
industry, industrial
information, informatique institute, institution
Inst Natl de Rech en Informatique
et en Automatique Inst of Elec and Electron Eng
345 E 47 St, New York NY 100 Institute of Technology
international
Int Union Theor Appl Mech Jet Propulsion Lab
California Inst of Tech
Pasadena CA 91109 journal
laboratory
Los Alamos National Lab, Los Alamos NM 87545
Lawrence Berkeley Lab Berkeley CA 94720
Lawrence Livermore Natl Lab
Livermore CA 94550 management
manufacture, manufacturing
Massachusetts Inst of Tech Cambridge MA 02139
materials mathematics, mathematical
measurement
mécanique mecha-nics, -nical, -nism
medicine, medical metallurgy
meteorology, meteorological
modeling molecular, molecules
month
national NASA Ames Res Center
Moffett Field CA 94035 NASA Langley Res Center
Hampton VA 23665
Natl Aeronaut & Space Admin Natl Bureau of Standards
Washington DC 20234
Nat! Inst of Standards and Tech Gaithersburg MD 20899
Natl Res Council Natl Sci Foundation
New Jersey Inst of Tech
New South Wales, Australia New York Univ, New York NY
Non-Destructive Evaluation
Non-Destructive Testing north, northern
northeast northwest
Northwestern Univ
Evanston IL 60201 nuclear
number
numerical Oak Ridge Natl Lab
Oak Ridge TN 37830 oceanography
ordinary differential equations

eng env equil Est Eval exp explos fac Fed FE FEM Found Fund geol Georgia Tech Grad hydraul ident info inst
INRIA
IEEE IT int IUTAM
JPL
J lab
LANL
LBL
LLNL man manuf
MIT mat math meas mec mech med metall meteorol model mol mo nati
NASA Ames
NASA Langley NASA
NBS(=NIST)
NIST(=NBS) NRC NSF NJIT NSW NYU NDE NDT N N NE NW
NWU nucl n, no, Nr numer
ORNL oceanog ODE

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optimization, optimum	optim
organization	org
page	p pp
partial differential equations	PDE
Pennsylvania State Univ	D C.
University Park PA 16802 petroleum	Penn Stat
physics, physical	phys
planetary	planet
Post Office Princeton Univ	PO
Princeton NJ 08544	Princeton
problems	prob
probability	probab
proceedings product, production	prod
progress	prog
publication, publish-ing, -ers	publ
Purdue Univ, W Lafayette IN 47907 Quarterly	Purdue Quart
recherche	rech
references	refs
rehabilitation reliability	rehab reliab
Rensselaer Polytechnic Inst	Terrato
Troy NY 12181	RPI
research	res
research and development Review, Revue, revised	R&D Rev
rheology, rheologic	rheol
Royal	R
Royal Inst of Tech Sandia Natl Lab	RIT
Albuquerque NM 87185	Sandia
Scandinavia, Scandinavica	Scand
science, scientific, scientifique	sci
seismology school	seismol sch
simulation	simul
society	soc
Soc for Indust and Appl Math 1400 Architects Bldg, 117 S 17 St,	
Philadelphia PA 19103-5052	SIAM
Solar Energy Res Inst, 1617	OFF
Cole Blvd, Golden CO 80401 south, southern	SERI S
southeast	SE
southwest	SW
Southwest Res Inst, 6220 Culebra Rd,	SWRI
San Antonio TX 78284 Stanford University,	SWKI
Stanford CA 94305	Stanford
State University of New York	SUNY
Station statistics, statistical	Sta
structural, structure	struct
studies, studii	stud
Symposium	Symp
system technical, technology	syst tech
temperature	temp
Teoretyczna	Teor
theoretical, theorique three-dimensional	Theor 3D
Transaction	Trans
translat-ed, -er, -ion	transl
tribology	trib
two-dimensional United Kingdom (Eng, Scot, Wales)	2D UK
United States	US
United States of America	USA
University Univ of California	Univ
Univ of California at Berkeley	
Berkeley CA 94720	UCB
Univ of California at Los Angeles	LICEA
Los Angeles CA 90024 Univ of California at San Diego	UCLA
La Jolla CA 92093	UCSD
University Press	UP

# REVIEW ARTICLES, SPECIAL ISSUES, AND SUPPLEMENT IN APPLIED MECHANICS REVIEWS, VOLUME 48 (1995)

Ray method for solving dynamic problems connected with propagation

of wave surfaces of strong and weak discontinuities.

YA Rossikhin and MV Shitikova (Voronezh, Russia).

AMR 48(1) 1-39 (January 1995)

Reprint No AMR 158 \$31.

[Associate Editor EH Dowell]

Layout optimization of structures.

GIN Rozvany, MP Bendsøe, and U Kirsch (Prague, Czech Republic).

AMR 48(2), 41-119 (February 1995)

Reprint No AMR159 \$48.

[Associate Editor PAA Laura]

Numerical simulations of coherent vortices in turbulence.

M Lesieur, P Comte, and O Métais (Grenoble, France).

AMR 48(3) 121-149 (March 1995)

Reprint No AMR 160 \$24.

[Associate Editor M Gad-el-Hak]

R-functions in boundary value problems in mechanics.

VL Rvachev and TI Sheiko (Kharkov, Ukraine).

AMR 48(4) 151-188 (April 1995)

Reprint No AMR161 \$28.

[Associate Editor VZ Gritschak]

Review of recent advances in the study of unsteady turbulent internal flows.

GJ Brereton (East Lansing, Michigan) and RR Mankbadi (Cleveland, Ohio).

AMR 48(4) 189-212 (April 1995)

Reprint No AMR 162 \$20.

[Associate Editor M Gad-el-Hak]

Material forces: Concepts and applications.

GA Maugin (Paris, France).

AMR 48(5) 213-245 (May 1995)

Reprint No AMR 163 \$26.

[Associate Editor MM Carroll and F Ziegler]

Anisotropic symmetries of linear elasticity.

SC Cowin (New York, New York) and MM Mehrabadi (New Orleans, Louisiana).

AMR 48(5) 247-285 (May 1995)

Reprint No AMR164 \$28.

[Associate Editor CO Horgan]

Some basic thermoelastic problems for nonhomogeneous structural materials.

Y Tanigawa (Sakai, Japan).

AMR 48(6) 287-300 (June 1995)

Reprint No AMR 165 \$16.

[Associate Editor RB Hetnarski]

Dynamic processes in structural thermo-viscoplasticity.

H Irschik (Linz-Auhof, Austria) and F Ziegler (Vienna, Austria).

AMR 48(6) 301-316 (June 1995)

Reprint No AMR 166 \$18.

[Associate Editor RB Hetnarski]

Transient heat transfer in extended surfaces.

A Aziz (Spokane, Washington) and AD Kraus (Monterey, California).

AMR 48(7) 317-350 (July 1995)

Reprint No AMR 167 \$26.

[Associate Editors W Begell]

Bibliography on skin friction reduction with polymers

and other boundary-layer additives.

RH Nadolink (Newport, Rhode Island) and WW Haigh (Zephyr Cove, Nevada).

AMR 48(7) 351-460 (July 1995)

Reprint No AMR 168 \$62.

[Associate Editor M Gad-el-Hak]

#### Simple models of human movement.

R McN Alexander (Leeds, United Kingdom).

AMR48(8) 461-470 (August 1995)

Reprint No AMR 169 \$14.

[Associate Editor MH Pope]

#### Cavitation in nonlinearly elastic solids: A review.

CO Horgan (Charlottesville, Virginia) and DA Polignone (Knoxville, Tennessee).

AMR48(8) 471-485 (August 1995)

Reprint No AMR 170 \$16.

[Associate Editor SK Datta]

#### Biomechanics of growth, remodeling, and morphogenesis.

LA Taber (Rochester, New York).

AMR48(8) 487-545 (August 1995)

Reprint No AMR171 \$38.

[Associate Editors RC Benson and MM Carroll]

#### Sediment transport mechanisms in coastal environments and rivers.

Special issue of five articles edited by RD Rajaona (Le Havre, France).

AMR 48(9), 547-609 (September 1995)

Reprint No AMR172 \$40.

#### Mechanics of swelling.

Special issue of 14 articles edited by TK Karalis (Xanthi, Greece).

AMR 48(10), 611-732 (October 1995)

Reprint No AMR 173 \$68.

#### Synchronization and chaotization in interacting dynamic systems.

II Blekhman (St Petersburg, Russia), PS Landa (Moscow, Russia),

and MG Rosenblum (Potsdam, Germany).

AMR 48(11) Part 1, 733-752 (November 1995)

Reprint No AMR174 \$18.

[Associate Editor E Rivin]

#### Cosserat plasticity and plastic spin.

H Lippmann (München, Germany).

AMR 48(11) Part 1, 753-762 (November 1995)

Reprint No AMR175 \$14.

[Associate Editor F Ziegler]

### Interfacial instabilities in stratified shear flows involving multiple viscous and viscoelastic fluids.

Kang Ping Chen (Tempe, Arizona).

Kang Fing Chen (Tempe, Artzona).

AMR 48(11) Part 1, 763-776 (November 1995)

Reprint No AMR176 \$16.

[Associate Editor HJS Fernando]

#### Mechanics Pan-America 1995

#### (Selected and Extended papers from PACAM IV, Buenos Aires, Argentina, January 1995).

Annual Supplement edited by LA Godoy (Mayaguez, Puerto Rico), SR Idelsohn (Santa Fe, Argentina),

PAA Laura (Bahia Blanca, Argentina), and DT Mook (Blacksburg, Virginia).

AMR 48(11) Part 2, S1-S232 (November 1995)

Reprint No AMR 177 \$96.

#### Nonlinear Boltzmann equation solutions and applications to fluid dynamics.

N Bellomo (Torino, Italy), P LeTallec (Rocquencourt, France), and B Perthame (Paris, France).

AMR 48(12) Part 1, 777-794 (December 1995)

Reprint No AMR178 \$20.

[Associate Editor JJ Telega]

#### Removal, suppression, and control of chaos by nonlinear design.

JF Lindner and WL Ditto (Atlanta, GA).

AMR 48(12) Part 1, 795-808 (December 1995)

Reprint No AMR 179 \$16.

[Associate Editor M Gad-el-Hak]

#### Random vibration of structures: A personal perspective.

I Elishakoff (Boca Raton, Florida).

AMR 48(12) Part 1, 809-825 (December 1995)

Reprint No AMR 180 \$18.

[Associate Editor PAA Laura]

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Abdallah, MG (1947 S 2500 E, Salt Lake City UT 84108):

Engineering Mechanics of Composite Materials by IM Daniel et al, 8R17

Abrate, S (904 Pheasant Hill, Rolla MO 65401):

Diagnostic - Maintenance Disposability of Rotating Machinery - Models - Mesurages- Analyses des Vibrations (French) by R Bigret et al, 10R6

Introduction to Elastic Wave Propagation by A Bedford et al, IR19

Ahmad, T (Thermosci Dept - 254 REB, GM NAO R&D Center, 254 REB, Warren MI 48090):

Environmental Implications of Combustion Processes by IK Puri, 3R26

Alkidas, AC (Engine Res Dept, General Motors R&D Center, Warren MI 48090):

Combustion and Pollution Control in Heating Systems by VI Hanby, 1R26

Anderson, K (Dept of Eng Mech, Ohio State Univ, Boyd Lab, 155 W Woodruff Ave, Columbus OH 43210-1181):

Computational Kinematics by J Angeles et al, 1R3

Variational Methods and Complementary Formulations in Dynamics by B Tabarrok et al, 8R7

Andrus, JF (Dept of Math, Univ of New Orleans, New Orleans LA 70148):

Direct Adaptive Control Algorithms: Theory and Applications by H Kaufman et al, 6R12

Aziz, A (Mech Eng Dept, Gonzaga Univ, E502 Boone Ave, Spokane WA 99258):

Boundary Element Method - Solid Mechanics and Its Applications, 27 by WS Hall, 8R1

#### B

Bahar, LY (Dept Mech Eng and Mech, Drexel Univ, 32nd and Chestnut St, Philadelphia PA 19104):

Kinematic and Dynamic Simulation of Multibody Systems: The Real Time Challenge by JG de Jalon et al., 1R5

Transform Methods for Solving Partial Differential Equations by DG Duffy, 4R1

Balmer, RT (Dept of Mech Eng, Unit of Wisconsin, 3200 N Cramer St, Milwaukee WI 53201):

Viscous Flow by H Ockendon et al, 8R31

Bao, Xiao-Qi (Dept of Sci and Elect Eng, Penn State Univ, 149 Hammond Bldg, University Park PA 16802):

Active Control of Sound by PA Nelson et al, 1R2

Bapat, CN (Dept of Mech Eng, City College of New York, Convent Ave at 138th St, New York NY 10031):

Vibration Damping of Structural Elements by CT Sun et al, 10R7

Baruh, H (Dept of Mech and Aerospace Eng, Rutgers Univ, PO Box 909, Piscataway NJ 08855-0909):

Control of Spacecraft and Aircraft by AE Bryson Jr, 3R7

Bass, RL (Mech and Fluids Eng Div, SWR!, 6220 Culebra Rd, San Antonio TX 78228-0510):

Discharge Characteristics by DS Miller, 8R27

Turbulence Models and Their Application in Hydraulics: A State-of-The-Art Review, Third Edition by W Rodi, 3R19

Bazant, ZP (Dept of Civil Eng, Northwestern Univ, Evanston IL 60208):

Boundary Elements in Nonlinear Fracture Mechanics by VMA Leitao, 5R18

Beasley, DE (Dept of Mech Eng. Clemson Univ. 222 Fluor Daniel Bldg, Clemson SC 29634-0921):

Erosion and Sedimentation by PY Julien, 12R20

Heat Transfer by J Taine et al, 6R35

Beck, T (Dept of Mech Eng, Kansas State Univ, 302 Durland Hall, Manhattan KS 66506-5106):

Solving Probems in Fluid Dynamics by GJ Sharpe, 12R23

Becker, RJ (Res Inst KL-545, Univ of Dayton, Dayton OH 45469-0150):

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# VIII. ENERGY & ENVIRONMENT

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Reynolds number effects in wall-bounded turbulent flows. M Gad-el-Hak and PR Bandyopadhyay. AMR 47(8), 307-365 (Aug 1994) Reprint No AMR148 \$38.

Heat and fluid flow inside rotating channels. W-J Yang, S Fann, and JH Kim. AMR 47(8), 367-396 (Aug 1994) Reprint No AMR 149 \$22.

Review of microscale heat transfer. AB Duncan and GP Peterson. AMR 47(9), 397-428 (Sept 1994) Reprint No AMR 150 \$24.

Internal variable formulations of problems in elastoplasticity: Constitutive and algorithmic aspects. BD Reddy and JB Martin. AMR 47(9), 429-456 (Sept 1994) Reprint No AMR151 \$22.

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Review of three dimensional dynamic analyses of circular cylinders and cylindrical shells. KP Soldatos. AMR 47(10), 501-516 (Oct 1994) Reprint No AMR 153 \$16.

Impact on laminated composites: Recent advances. S Abrate. AMR 47(11), 517-544 (Nov 1994) Reprint No AMR 154 \$22.

Theory of representations for tensor functions: A unified invariant approach to constitutive equations. Q-S Zheng. AMR 47(11), 545-587 (Nov 1994) Reprint No AMR 155 \$30.

Solidification of pure liquids and liquid mixtures inside ducts and over external bodies. Shoichiro Fukusako and Masahiko Yamada. AMR 47(12) Part 1, 589-621 (Dec 1994) Reprint No AMR156 \$26.

Index to Volume 47 (1994), Reprint No AMR 157 \$96

Ray method for solving dynamic problems connected with propagation of wave surfaces of strong and weak discontinuities. YA Rossikhin and MV Shitikova. AMR 48(1), 1-39 (Jan 1995) Reprint No AMR 158 \$30.

Layout optimization of structures. GIN Rozvany, MP Bendsee, and U Kirsch. AMR 48(2), 41-120 (Feb 1995) Reprint No AMR159 \$48.

Numerical simulation of coherent vortices in turbulence. M Lesieur, P Comte, and O Métais. AMR48(3) 121-149 (Mar 1995) Reprint No AMR160 \$24.

R-functions in boundary value problems in mechanics. VL Rvachev and TI Sheiko. AMR 48(4) 151-188 (Apr 1995) Reprint No AMR 161 \$28.

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GJ Brereton and RR Mankbadi. AMR 48(4) 189-212 (Apr 1995) Reprint No AMR 162 \$20.

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Dynamic processes in structural thermo-viscoplasticity. H Irschik and F Ziegler. AMR 48(6) 301-316 (June 1995) Reprint No AMR166 \$18.

Transient heat transfer in extended surfaces. A Aziz and AD Kraus. AMR 48(7) 317-350 (July 1995) Reprint No AMR 167 \$26.

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Simple models of human movement. R McN Alexander. AMR 48(8) 461-470 (Aug 1995) Reprint No AMR169 \$14.

Cavitation in nonlinearly elastic solids: A review. CO Horgan and DA Polignone. AMR 48(8) 471-485 (Aug 1995) Reprint No AMR170 \$16.

Biomechanics of growth, remodeling, and morphogenesis. LA Taber. AMR 48(8) 487-545 (Aug 1995) Reprint No AMR171 \$38.

Sediment transport mechanisms in coastal environments and rivers. Special Issue edited by RD Rajaona. AMR 48(9) 547-609 (Sept 1995) Reprint No AMR172 \$40.

Mechanics of swelling. Special Issue edited by TK Karalis. AMR 48(10) 611-732 (Oct 1995) Reprint No AMR173 \$68.

Synchronization and chaotization in interacting dynamical systems. II Blekhman, PS Landa, and MG Rosenblum. AMR 48(11) Part 1, 733-752 (Nov 1995) Reprint No AMR174 \$18.

Cosserat plasticity and plastic spin. H Lippmann. AMR48(11) Part 1, 753-762 (Nov 1995) Reprint No AMR175 \$14.

Interfacial instabilities in stratified shear flows involving multiple viscous and viscoelastic fluids. Kang Ping Chen. AMR 48(11) Part 1, 763-777, (Nov 1995), Reprint No AMR176 \$16.

Mechanics Pan-America 1995 (Selected and extended papers from PACAM IV, Buenos Aires, Argentina, Jan 1995). LA Godoy, SR Idelsohn, PAA Laura, and DT Mook (eds). AMR 48(11) Part 2, (Nov 1995) Reprint No AMR 177 596

Nonlinear Boltzmann equation solutions and applications to fluid dynamics. N Bellomo, P LeTallec, and B Perthame. AMR48(12) Part 1, 777-794, (Dec 1995). Reprint No AMR178 \$20.

Removal, suppression, and control of chaos by nonlinear design. JF Lindner and WL Ditto. AMR48(12) Part 1, 795-808, (Dec 1995). Reprint No AMR179 \$16.

Random vibration of structures: A personal perspective. 1 Elishakoff. AMR48(12) Part 1,809-825, (Dec 1995). Reprint No AMR180 \$18.

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Al Eng Des Anal Manuf

(Al EDAM) Artificial Intelligence for Engineering Design, Analysis and Manufacturing (4) 0890-0604 (Academic, London)

**ACI Struct J** 

ACI Structural Journal (6) 0889-325X (Am Concrete Inst, Detroit)

**Acoust Phys** 

Acoustical Physics (6) 1063-7710 (AIP)

Acoust Lett

Acoustics Letters (12) 0140-1599 (Parjon Info. Sussex. UK)

**Acta Astronaut** 

Acta Astronautica (12) 0094-5765 (Pergamon, Elmsford NY)

**Acta Geophys Polonica** 

Acta Geophysica Polonica (4) 0001-5725 (Polish Academy of Sciences, Warsaw, Poland)

Acta Mat Compositae Sinica

Acta Materiae Compositae Sinica (4) 1000-3851 (Chinese Soc Composite Mat, Beijing

Acta Math Sci

Acta Mathematica Scientia 0252-9602 (JCB Sci Publishers, Basel, Switzerland) Acta Mech

Acta Mechanica (12) 0001-5970 (Springer-Verlag, Wien)

Acta Mech Sinica

Acta Mechanica Sinica (4) 0567-7718 (Allerton, New York)

Acta Mech Solida Sinica

Acta Mechanica Solida Sinica (4) 0894-9166 (Pergamon, Elmsford NY)

Acta Metall Mat

Acta Metallurgica et Materialia (12) 0956-7151 (Pergamon, Tarrytown, NY)

Acta Phys Polonica A

Acta Physica Polonica A (12) 0587-4284 (Polish Academy of Sciences, Warsaw, Poland)

Acta Phys Polonica B

Acta Physica Polonica B (12) 0587-4257 (Jagellonian Univ, Krakow Poland)

Acta Polytech Scand Mech Eng Acta Polytechnica Scandinavica,

Mechanical Engineering Series (ir) 0001-687X (Finnish Acad Tech, Helsinki)

Acta Polytech Scand Civil Eng Build Acta Polytechnica Scandinavica Civil Engineering and Building Construction Series (ir) 0355-2705 (Finnish Acad Tech,

Acta Tech CSAV

Acta Technica CSAV (6) 0001-7043 (Inst Elec Eng, Acad of Sci, Prague, Czech Rep)

Acustica

Acustica (12) 0001-7884 (Springer, New York)

**Adv Composites Letters** 

Advanced Composites Letters 0963-6935 (Woodhead, UK)

**Adv Performance Mat** 

Advanced Performance Materials 0929-1881 (Kluwer, Norwell MA)

**Adv Robotics** 

Advanced Robotics (4) 0169-1864 (VNU, Utrecht, Netherlands and Robotics Soc Japan, Tokyo)

**Adv Eng Software** 

Advances in Engineering Software (6) 0965-9978 (Elsevier, UK)

**Adv Mech** 

Advances in Mechanics (4) 1230-0853 (Polish Soc Theor Appl Mech, Warsaw, Poland)

Adv Mech (Usp Mech)

Advances in Mechanics (Uspekhi Mekhaniki) (4) 0137-3722 (Polish Sci Pub, Warsaw)

**Adv Water Resources** 

Advances in Water Resources (4) 0309-1708 (Elsevier, UK)

Aeronaut J

Aeronautical Journal (10) 0001-9240 (Manor Park Press, Hampden Park, UK)

Aerosol Sci Tech Aerosol Science and Technology (8) 0278-

6826 (Elsevier Sci. New York) AIAA J AIAA Journal (12) 0001-1452 (AIAA,

Washington DC)

Ann Biomed Eng Annals of Biomedical Engineering (6) 0090-6964 (Pergamon, Elmsford NY)

Annu Rev Fluid Mech

Annual Review of Fluid Mechanics (1) 0066-4189 (Annu Rev, Palo Alto CA)

Annu Rev Heat Transfer

Annual Review of Heat Transfer (1) 1049-0787 (Hemisphere, New York)

**Appl Acoust** 

Applied Acoustics (12) 0003-682X (Elsevier Sci, UK)

**Appl Composite Mat** 

Applied Composite Materials (6) 0929-189X (Kluwer, Netherlands)

**Appl Math Model** 

Applied Mathematical Modelling (12) 0307-904X (Butterworth, Woburn, MA)

**Appl Math Comput** 

Applied Mathematics and Computation (8) 0096-3003 (Elsevier Sci, New York)

Appl Math Comp Sci

Applied Mathematics and Comp Science 0867-857X (Tech Univ Press, Zielona Gora, Poland)

Appl Math Mech

lied Mathematics and Mechanics (12) 0253-4827 (Shanghai Univ, Peoples Rep of

**Appl Math letters** 

Applied Mathematics Letters (6) 0893-9659 (Pergamon, Tarrytown, NY)

Appl Mech Rev

Applied Mechanics Reviews (12) 0003-6900 (ASME, New York)

**Appl Numer Math** 

olied Numerical Mathematics (12) 0168-Applied Numerical Mathematics (2) 9274 (Elsevier Sci BV, Netherlands)

**Appl Ocean Res** 

Applied Ocean Research (4) 0141-1187 (Elsevier, UK)

**Appl Sci Res** 

Applied Scientific Research (8) 0003-6994 (Kluwer, Netherlands)

**Appl Solar Energy** 

Applied Solar Energy (transl from Russian) (6) 0003-701X (Allerton, New York)

Appl Thermal Eng

neering (8) 1359-4311 Applied Thermal Engi (Pergamon, Tarrytown, NY)

Appl Thermal Sci

Applied Thermal Sciences (transl of Promyshlennaya Teplotekhnika) (6) 1042-0959 (Wiley, New York)

Arab J Sci Eng

Arabian Journal for Science and Engineering (4) 0377-9211 (King Fahd Univ, Dhahran, Saudi Arabia)

Arch Rational Mech Anal

Archive for Rational Mechanics and Analysis (12) 0003-9527 (Springer, Berlin)

Arch Appl Mech

Archive of Applied Mechanics (Ingenieur-Archiv) (8) 0939-1533 (Springer-Verlag, Berlin)

Arch Acoust

Archives of Acoustics (4) 0137-5075 (Polish Academy of Sciences, Warsaw,

Arch Civil Eng Archives of Civil Engineering (4) 1230-2945 (Polish Sci Pub, Warsaw)

Arch Comput Methods Eng

Archives of Computational Methods in Engineering (4) 1134-3060 (Int Center, Barcelona, Sp)

Arch Control Sci

Archives of Control Sciences 0904-072X (Polish Academy of Sciences, Warsaw,

Arch Hydro-Eng Env Mech

Archives of Hydro-Engineering and Environmental Mechanics (4) 1231-3726 (Polish Acad of Sci, Gdansk)

Arch Hydroeng

Archives of Hydroengineering (4) 1231-3718 (Polish Academy of Sciences, aw. Poland)

Arch Hydroeng

Archives of Hydroengineering (4) (Polish Academy of Sciences, Warsaw, Poland)

Arch Mech

Archives of Mechanics (6) 0373-2029 (Polish Academy of Sciences, Warsaw, Poland)

Arch Thermodyn

Archivum Thermodynamiki (Polish Archives of Thermodynamics) (4) 0208-418X (Polish Acad Sci, Warsaw)

Arch Budowy Maszyn

Archiwum Budowy Maszyn (Polish: Archive of Mechanical Engineering) (4) 0004-0738 (Polish Acad Sci, Warsaw)

Arch Gornictwa

Archiwum Gornictwa, Archives of Mining Sciences (4) 0860-7001 (Polish Acad Sci.

Arch Gornictwa

Archiwum Gornictwa, Archives of Mining Sciences (4) 0860-70014 (Polish Acad Sci,

Arch Naukio Mat

Archiwum Naukio Materiatach 0138-032X (Polska Akad Nauk)

ASHRAE J

ASHRAE Journal (12) 0001-2491 (ASHRAE, Atlanta)

Asian J Struct Eng

Asian Journal of Structural Engineering (4) 1025-3041 (Build and Housing Res, Iran)

Rend Mat Acc Lincei Ser 9

Atti della Accademia Nazionale dei Lincei, Classe di Scienze Fisiche Matematiche e Naturali, Rendiconti Lincei, Matematica e Applicazioni, serie 9 (4) 1120-6330 (Accademia Nazionale dei Lincei, Rome Italy)

Automatica

Automatica (6) 0005-1098 (Pergamon, Elmsford NY)

**Autonomous Robots** 

Autonomous Robots 0929-5593 (Kluwer, MA **Bio-Med Mat Eng** 

Bio-Medical Materials and Engineering (4) 0959-2989 (Pergamon, Tarrytown, NY)

**Biomimetics** 

Biomimetics (4) 1059-0153 (Plenum, New Vort) Biorheol

Biorheology (6) 0006-355X (Pergamon, Tarrytown, NY

Biuletyn Wojskowej Akademii

Technicznej

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Boundary-Layer Meteorology (20) 0006-8314 (Kluwer, Netherlands) **Boundary Elements Comm** 

Boundary Elements Communications (6) 1353-825X (Comput Mech, Billerica MA)

**Bull Polish Acad Sci Tech Sci** Bulletin of the Polish Academy of Sciences, Technical Sciences (Engl, Fr, Russ) (12) 0239-7528 (Polish Acad Sci, Warsaw)

**Bull Seismol Soc Am** Bulletin of the Seismological Society of America (6) 0037-1106 (Seismological Soc Amer. El Cerrito, CA)

Celest Mech Dyn Astron Celestial Mechanics and Dynamical Astronomy (12) 0923-2958 (Kluwer, MA)

**Cement & Concrete Composites** Cement and Concrete Composites (4) 0958-9465 (Elsevier Sci, New York)

Chaos

Chaos (4) 1054-1500 (AIP)

**Chaos Solitons Fractals** Chaos, Solitons and Fractals (6) 0960-0779 (Pergamon, Elmsford NY)

China Ocean Eng

China Ocean Engineering 0890-5487 (China Ocean Press, Beijing)

**Chinese J Acoustics** Chinese Journal of Acoustics (4) 0217-9776

(Science Press, Beijing) Chinese J Appl Mech Chinese Journal of Applied Mechanics (4) 1000-4939 (Xi'an Jiaotong Univ, Peoples

ROC)

Chinese J Numer Math Appl Chinese Journal of Numerical Mathematics and Applications (4) 0899-4358 (Allerton, New York)

Coastal Eng

Coastal Engineering (6) 0378-3839 (Elsevier Sci BV, Netherlands)

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Composite Struct

Composite Structures (16) 0263-8223 (Elsevier Sci, UK) Comput Mech

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Comput Mech Adv Computational Mechanics Advances 0927-7951 (Elsevier Sci BV, Netherlands)

Comp Assisted Mech Eng Sci

Computer Assisted Mechanics and Engineering Sciences (4) 1232-308X (Polish Academy of Sciences, Warsaw, Poland)

Comput Methods Appl Mech Eng Computer Methods in Applied Mechanics and Engineering (40) 0045-7825 (Elsevier Sci SA, Switzerland)

**Comput Methods Civil Eng** Computer Methods in Civil Engine 0867-5007 (Warsaw Univ of Tech, Warsaw, Poland)

**Comput Fluids** Computers and Fluids (8) 0045-7930 (Pergamon, Tarrytown, NY)

Comput Geotech Computers and Geotechnics (6) 0266-352X (Elsevier, New York)

**Comput Struct** Computers and Structures (24) 0045-7949 (Pergamon, Tarrytown, NY)

Comput Syst Eng Computing Systems in Engineering (4) 0956-0521 (Pergamon, Elmsford NY)

Continental Shelf Res Continental Shelf Research 0278-4343 (Pergamon, Elmsford NY)

**Control and Cybernetics** Control and Cybernetics (4) 0324-8569 (Polish Academy of Sciences, Warsaw,

**Dyn Control** Dynamics and Control (4) 0925-4668 (Kluwer, Netherlands)

**Dyn Stability Syst** Dynamics and Stability of Systems (4) 0268-1110 (Oxford UP, New York)

**Dyn Atmos Oceans** Dynamics of Atmospheres and Oceans (4) 0377-0265 (Elsevier Sci BV, Netherlands)

Earthquake Eng Struct Dyn Earthquake Engineering and Structural Dynamics (8) 0098-8847 (Wiley, UK)

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**Eng Anal Boundary Elements** Engineering Analysis with Boundary Elements (8) 0955-7997 (Elsevier Sci, UK)

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(Pineridge, Swansea UK) **Eng Failure Anal** 

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Eng Trans

Engineering Transactions (Polish: Rozprawy Inzynierskie) (4) 0867-888X (Polish Academy of Sciences, Warsaw, Poland)

**European J Appl Math** European Journal of Applied Mathem (6) 0956-7925 (Cambridge UP, UK)

European J Mech Eng European Journal of Me Engineering (4) 0035-3612 (BSME, Brussels)

European Journal of Mechanics A/Solids (6) 0997-7538 (Gauthier-Villars, MA)

Eur J Mech B European Journal of Mechanics B/Fluids (6) 0997-7546 (Gauthier-Villars, MA)

Exp Heat Transfer Experimental Heat Transfer (4) 0891-6152 (Taylor & Francis, Washington DC) Exp Mech

Experimental Mechanics (4) 0014-4851 (SEM, Bethel CT)

Exp Tech Experimental Techniques (12) 0732-8818 (Soc Exp Mech, Bethel CT)

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Facta Universitatis: Series Mechan Automatic Control and Robotics 0354-2009 (Univ of Nis, Serbia Yugoslavia)

**Fatigue Fracture Eng Mat Struct** Fatigue and Fracture of Engineering Materials and Structures (12) 8756-758X (Fatigue and Fracture Eng Mat & Struct,

Finite Elements Anal Des Finite Elements in Analysis and Design (12) 0168-874X (Elsevier Sci BV, Netherlands)

Fluid Dyn Res Fluid Dynamics Research (12) 0169-5983 (Elsevier Sci BV, Netherlands)

Fluid Mech Res Fluid Mechanics Research (6) 1064-2277 (Scripta, Wiley, New York)

Forschung Ingenieur Forschung im Ingenieurwesen (Ger) (6) 0015-7899 (VDI, Dusseldorf, Germany)

**Fusion Eng Des** Fusion Engineering and Design (12) 0920-3796 (Elsevier, New York)

Geophys Astrophys Fluid Dyn Geophysical and Astrophysical Fluid Dynamics (4) 0309-1929 (Gordon and Breach, New York)

**Geophys Trans** Geophysical Transactions 0016-7177 (Eotvos, Hungary) Geophys

Geophysics (12) 0016-8033 (Soc Exploration Geophys, Tulsa, OK)

Geotechnical Geological Eng Geotechnical and Geological Engi (4) 0960-3182 (Chapman and Hall, New York)

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Heat and Mass Transfer Warme Heat and Mass Transfer Warme und Stoffubertragung (6) 0947-7411 (SpringerHeat Recovery Syst CHP

Heat Recovery Systems and CHP (8) 0890-4332 (Pergamon, Tarrytown, NY)

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Heron Heron (4) 0046-7316 (Tech Hogeschool, Delft)

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IEE Proc D Control Theory Appl IEE Proceedings D, Control Theory and Applications 0143-7054 (IEE, Stevenage, UK)

**IMA J Appl Math** IMA Journal of Applied Mathematics (6) 0272-4960 (Oxford UP, UK)

**IMA J Numer Anal** IMA Journal of Numerical Analysis (4) 0272-4979 (Oxford UP, UK)

Indust Math Industrial Mathematics (2) 0019-8528 (Indust Math Soc, Detroit, Mich)

Ingenieria Hidraul Mex Ingenieria hidraulica en mexico 0186-4076

Int Commun Heat Mass Transfer ternational Comm ications in Heat and Mass Transfer (6) 0735-1933 (Pergamon, Elmsford NY)

Int J Numer Anal Methods Geomech International Journal for Numerical and Analytical Methods in Geomechanics (12) 0363-9061 (Wiley, UK)

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Int J Comput Integrated Manuf International Journal of Computer Integrated Manufacturing (6) 0951-192X (Taylor & Francis, Philadelphia)

Int J Control ternational Journal of Control (12) 0020-7179 (Taylor & Francis, UK)

Int J Damage Mech International Journal of Damage Mechanics (4) 1056-7895 (Technomic, Lancaster PA)

Int J Energy Res International Journal of Energy Research (9) 0363-907X (Wiley, UK)

Int J Eng Fluid Mech International Journal of Engineering Fluid Mechanics (4) 0893-3960 (Gulf Publ, Int J Eng Sci

al Journal of Engineering Science (15) 0020-7225 (Pergamon, Tarrytown,

Int J Fatigue

International Journal of Fatigue (8) 0142-1123 (Butterworth, Woburn, MA) Int J Fracture

International Journal of Fracture (24) 0376-9429 (Kluwer, MA) Int J Heat Fluid Flow

International Journal of Heat and Fluid Flow (6) 0142-727X (Butterworth, Woburn, MA)

Int J Heat Mass Transfer International Journal of Heat and Mass Transfer (18) 0017-9310 (Pergamon,

Int J Impact Eng International Journal of Impact Engineering (6) 0734-743X (Pergamon, Tarrytown, NY)

Int J Machine Tools Manuf International Journal of Machine Tools and Manufacture (6) 0890-6955 (Pergamon, Elmsford NY)

Int J Mech Sci

International Journal of Mechanical Sciences (12) 0020-7403 (Pergamon, Tarrytown, NY)

Int J Multiphase Flow International Journal of Multiphase Flow (6) 0301-9322 (Pergamon, Elmsford NY)

Int J Non-Linear Mech International Journal of Non-Linear Mechanics (6) 0020-7462 (Pergamon, Tarrytown, NY)

Int J Numer Methods Heat & Fluid Flow

International Journal of Numerical Methods for Heat & Fluid Flow (10) 0961-5539 (Pineridge, Swansea UK)

Int J Offshore Polar Eng International Journal of Offshore and Polar Engineering (4) 1053-5381 (ISOPE, Golden, CO)

Int J Plasticity International Journal of Plasticity (4) 0749-6419 (Pergamon, Tarrytown, NY)

Int J Pressure Vessels Piping International Journal of Pressure Vessels and Piping (12) 0308-0161 (Elsevier Sci,

Int J Robotics Autom International Journal of Rob Automation (4) 0826-8185 (IASTED, Anaheim, CA)

Int J Robotics Res International Journal of Robotics Research (6) 0278-3649 (MIT Press, Cambridge MA)

Int J Rock Mech Mining Sci International Journal of Rock Mechanics and Mining Sciences and Geomechanics Abstracts (6) 0148-9062 (Pergamon, Elmsford NY)

Int J Solids Struct International Journal of Solids and Structures (30) 0020-7683 (Pergamon, Tarrytown, NY)

Int J Space Struct International Journal of Space Structures 0266-3511 (Multi Sci Pub, UK)

Int J Struct

International Journal of Structures (4) 0253-4754 (Nem Chand, Roorkee India) Int J Supercomput Appl High

**Perform Comput** International Journal of Supercompute Applications and High Performance Computing (4) 1078-3482 (MIT Press, Cambridge MA)

Int J Japan Soc Precision Eng International Journal of the Japan Society for Precision Engineering (4) 0916-782X (JSPE, Tokyo)

Int J Turbo Jet Engines International Journal of Turbo and Jet Engines 0334-0082 (Freund, UK) Int J Vehicle Des

International Journal of Vehicle Design (6) 0143-3369 (Int Assoc Vehicle Des and Interscience, Geneva)

Int Shipbuild Prog

International Shipbuilding Progress (12) 0020-868X (Delft Univ Pres, Netherlands)

**Inverse Prob** 

Inverse Problems (6) 0266-5611 (Inst Phys. UK)

Inverse Prob Eng

Inverse Problems in Engineering (4) 1068-2767 (Gordon and Breach, New York)

Inzynieria Budownictwo
Inzynieria i Budownictwo 0021-0315
(Torkret, Poland)

Israel J Tech

Israel Journal of Technology (6) 0021-2202 (Laser Pages, Jerusalem)

Japan J Trib

Japanese Journal of Tribology (transl of Journal of the Japanese Society of Tribologists) (12) 1045-7828 (Allerton, New York)

J Adhesion

Journal of Adhesion (16) 0021-8464 (Gordon and Breach, New York)

J Adhesion Sci Tech

Journal of Adhesion Science and Technology (12) 0169-4243 (VSP, Netherlands)

J Aerospace Eng Journal of Aerospace Engineering (4) 0893-

1321 (ASCE)

J Aircraft

Journal of Aircraft (12) 0021-8669 (AIAA,

Washington DC)

J Appl Math Mech Journal of Applied Mathematics and Mechanics (transl from Russian) (6) 0021-8928 (Pergamon, Tarrytown, NY)

J Appl Mech
Journal of Applied Mechanics (4) 0021-8936 (ASME, New York)

J Biomech Eng Journal of Biomechanical Engineering (4) 0148-0731 (ASME, New York)

J Biomech Journal of Biomechanics (12) 0021-9290 (Pergamon, Tarrytown, NY)

J Cold Regions Eng Journal of Cold Regions Engineering (4) 0887-381X (ASCE)

J Composite Mat Journal of Composite Materials (18) 0021-9983 (Technomic, Lancaster PA)

J Composite Tech Res Journal of Composites Technology and Research (4) 0885-6804 (ASTM)

J Comput Appl Math Journal of Computational and Applied Mathematics (15) 0377-0427 (Elsevier Sci BV, Netherlands) J Comput Math

Journal of Computational Mathematics (4) 0254-9409 (Science Press, Beijing) J Comput Phys

Journal of Computational Physics (12) 0021-9991 (Academic, Orlando FL) J Construct Steel Res

Journal of Constructional Steel Research (12) 0143-974X (Elsevier Sci, UK) J Contemporary Math Anal

Journal of Contemporary Mathematical Analysis 1068-3623 (Allerton, New York) J Czech Slovak Mech Eng

Journal of Czech and Słovak Mechanical Engineering (6) 0964-329X (Riecansky Science, Cambridge, England) J Des Manuf

Journal of Design and Manufacturing (4) 0962-4694 (Chapman and Hall, New York)

J Dyn Syst Meas Control Journal of Dynamic Systems Measuremen and Control (4) 0022-0434 (ASME, New York) J Elast

Journal of Elasticity (12) 0374-3535 (Kluwer, Netherlands)

J Electron Packaging
Journal of Electronic Packaging (4) 10437398 (ASME, New York)

J Energy Resources Tech Journal of Energy Resources Technology (4) 0195-0738 (ASME Press, New York)

J Eng Gas Turbines Power
Journal of Engineering for Gas Turbines and
Power (4) 0742-4795 (ASME, New York)

J Eng Indust Journal of Engineering for Industry (4) 0022-0817 (ASME, New York)

J Eng Med
Journal of Engineering in Medicine (4)
0954-4119 (MEP, Suffolk UK)

J Eng Mat Tech Journal of Engineering Materials and Technology (4) 0094-4289 (ASME, New York)

J Eng Math Journal of Engineering Mathematics (6) 0022-0833 (Kluwer, Netherlands) J Eng Mech

Journal of Engineering Mechanics (12) 0733-9399 (ASCE) J Enhanced Heat Transfer

J Ennanced Heat Transfer
Journal of Enhanced Heat Transfer (4)
1065-5131 (Gordon and Breach, New York)
J Env Eng

Journal of Environmental Engineering (6) 0733-9372 (ASCE) J Ferrocement

Journal of Ferrocement (4) 0125-1759 (IFIC, Bangkok, Thailand) J Fluid Control

Journal of Fluid Control (4) 8755-8564 (Delbridge, Cupertino CA)

J Fluid Mech Journal of Fluid Mechanics (12) 0022-1120 (Cambridge UP, UK)

J Fluids Struct
Journal of Fluids and Structures (12) 0889-9746 (Academic, UK)

J Fluids Eng Journal of Fluids Engineering (0) 0098-2202 (ASME, New York)

J Friction Wear Journal of Friction and Wear (6) 0733-1924 (Allerton, New York)

J Geophys Res Journal of Geophysical Research 0148-0227 (Am Geophys Union, Washington DC)

J Geotech Eng Journal of Geotechnical Engineering (12) 0733-9410 (ASCE)

J Guidance Control Dyn Journal of Guidance, Control and Dynamics (6) 0731-5090 (AlAA, Washington DC)

J Heat Transfer
Journal of Heat Transfer (4) 0022-1481
(ASME, New York)

J Hydraul Eng Journal of Hydraulic Engineering (12) 0733-9429 (ASCE)

J Hydraul Res Journal of Hydraulic Research (4) 0022-1686 (IAHR, Delft, Netherlands) J Hydrodyn

Journal of Hydrodynamics Series B 1001-6058 (China Ocean Press, Beijing) J Intelligent & Robotic Syst

Journal of Intelligent & Robotic Systems (9) 0921-0296 (Kluwer, Netherlands) J Intelligent Manuf

Journal of Intelligent Manufacturing (6) 0956-5515 (Chapman and Hall, New York) J Intelligent Mat Syst Struct

Journal of Intelligent Material Systems and Structures (6) 1045-389X (Technomic, Lancaster PA)

J Machinery Manuf Reliab Journal of Machinery Manufacture and Reliability 1052-6188 (Allerton, New York) J Manuf Syst

Journal of Manufacturing Systems (4) 0278-6125 (Soc Manuf Eng, Dearborn MI)

J Marine Res Journal of Marine Research (Sears Foundation Marine Res. New Haven, CT)

J Mat in Civil Eng Journal of Materials in Civil Engineering (4) 0899-1561 (ASCE)

J Mat Processing Manuf Sci Journal of Materials Processing and Manufacturing Science (4) 1062-0656 (Technomic, Lancaster PA)

J Mat Processing Tech Journal of Materials Processing Technology (32) 0924-0136 (Elsevier Sci SA, Switzerland)

J Mat Sci Mat Med Journal of Materials Science - Materials in Medicine (12) 0957-4530 (Chapman and Hall, UK)

J Mech Des Journal of Mechanical Design (4) 0161-8458 (ASME, New York)

J Mech Des Journal of Mechanical Design (4) 1050-0472 (ASME, New York)

J Microelectromechanical Syst Journal of Microelectromechanical Systems (4) 1057-7157 (IEEE, New York)

J Micromech Microeng Journal of Micromechanics and Microengineering (4) 0960-1317 (Inst Phys, UK)

J Non-Equil Thermodyn Journal of Non-Equilibrium Thermodynamics (4) 0340-0204 (de Gruyter, Berlin)

J Non-Newtonian Fluid Mech Journal of Non-Newtonian Fluid Mechanics (12) 0377-0257 (Elsevier Sci BV, Netherlands)

J Nondestruct Eval Journal of Nondestructive Evaluation (4) 0195-9298 (Plenum, New York)

J Nonlinear Sci Journal of Nonlinear Science (4) 0938-8974 (Springer, New York)

J Offshore Mech Arctic Eng Journal of Offshore Mechanics and Arctic Engineering (4) 0892-7219 (ASME, New York)

J Optim Theory Appl Journal of Optimization Theory and Applications (12) 0022-3239 (Plenum, UK)

J Phys Oceanog Journal of Physical Oceanography (12) 0022-3670 (Am Meteorol Soc, Boston)

J Pressure Vessel Tech Journal of Pressure Vessel Technology (4) 0094-9930 (ASME, New York)

J Propulsion Power
Journal of Propulsion and Power (6) 0748-4658 (AIAA, Washington DC)

J Quant Spectros Radiative Transfer Journal of Quantitative Spectroscopy and Radiative Transfer (12) 0022-4073 (Pergamon, Elmsford NY) J Rehab Res Dev

Journal of Rehabilitation Research and Development (4) 0007-506X (Veterans Health Admin, Washington)

J Reinforced Plastics Composites Journal of Reinforced Plastics and Composites (12) 0731-6844 (Technomic, Lancaster PA)

J Robotic Syst Journal of Robotic Systems (12) 0741-2223 (Wiley, New York)

J Sci Comput Journal of Scientific Computing (2) 0885-7474 (Plenum, New York)

J Ship Res Journal of Ship Research (4) 0022-4502 (Soc Naval Architects Marine Eng, New York) J Solar Energy Eng Journal of Solar Energy Engineering (4) 0199-6231 (ASME, New York)

J Sound Vib Journal of Sound and Vibration (50) 0022-460X (Academic, UK)

J Spacecraft Rockets
Journal of Spacecraft and Rockets (6) 00224650 (AIAA, Washington DC)

J Sports Sci Journal of Sports Sciences (6) 0264-0414 (E&FN Spon, Andover, Hants, UK)

J Strain Anal Eng Des Journal of Strain Analysis for Engineering Design (4) 0309-3247 (Mech Eng Publ, London)

J Struct Eng Journal of Structural Engineering (12) 0733-9445 (ASCE)

J Syst Control Eng Journal of Systems and Control Engineering (Part I of Proceedings of the Institution of Mechanical Engineers) (4) 0959-6518 (MEP, Suffolk UK)

J Syst Eng
Journal of Systems Engineering 0938-7706
(Springer-Verlag London, Surrey, UK)

J Tech Phys Journal of Technical Physics (4) 0324-8313 (Polish Academy of Sciences, Warsaw,

J Terramech Journal of Terramechanics (4) 0022-4898 (Pergamon, Elmsford NY)

J Acoust Soc Am
Journal of the Acoustical Society of
America (12) 0001-4966 (AIP, Woodbury,

J Am Helicopter Soc Journal of the American Helicopter Society (4) 0002-8711 (AHS, Alexandria VA)

J Atmos Sci Journal of the Atmospheric Sciences 0022-4928

J Austral Math Soc B
Journal of the Australian Mathematical
Society, Series B. Applied Mathematics (4)
0334-2700 (Australian Math Pub Assoc.
ACT. Australia)

J Brazilian Soc Mech Sci Journal of the Brazilian Society of Mechanical Sciences (4) 0100-7386 (Brazil Soc Mech Sci, Brazil)

J Chinese Soc Mech Eng Journal of the Chinese Society of Mechanical Engineers (6) 0257-9731 (Chinese Soc Mech Eng, Taipei, Taiwan)

J Franklin Inst Journal of the Franklin Institute (6) 0016-0032 (Pergamon, Elmsford NY)

J Inst Eng (India)
Journal of the Institution of Engineers
(India) (6) 0020-3408 (Inst of Eng, India)
J Japan Soc Precision Eng

Journal of the Japan Society of Precision Engineering (12) 0912-0289 (Japan Soc for Precision Eng. Tokyo, Japan) J Mech Behavior Mat

Journal of the mechanical behavior of materials 0334-8938 (Freund, UK)

J Mech Phys Solids
Journal of the Mechanics and Physics of
Solids (12) 0022-5096 (Pergamon,
Tarrytown, NY)

J Theor Appl Mech Journal of Theoretical and Applied Mechanics (Polish: Mechanika Teoretyczna i Stosowana (4) 0079-3701 (Polish Soc Theor Appl Mech, Warsaw, Poland)

J Phys Soc Japan Journal of the Physical Society of Japan (12) 0031-9015 (Phys Soc Japan, Tokyo)

J Thermal Anal Journal of Thermal Analysis (12) 0368-4466 (Wiley, UK) J Thermal Insulation Build Envelopes

Journal of Thermal Insulation and Building Envelopes (4) 1065-2744 (Technomic, Lancaster PA)

J Thermal Sci

Journal of Thermal Science (4) 1003-2169 (Science Press, Beijing) J Thermal Stresses

Journal of Thermal Stresses (6) 0149-5739 (Taylor & Francis, Washington DC)

J Thermophys Heat Transfer Journal of Thermophysics and Heat Transfer (4) 0887-8722 (AIAA, Washington DC)

J Thermoplastic Composite Mat Journal of Thermoplastic Composite Materials (4) 0892-7057 (Technomic, Lancaster PA)

J Soc Mat Sci Japan Journal of the Society of Materials Science, Japan (12) 0514-5163 (Soc Mat Sci Japan, Kyoto Japan)

J Trib Journal of Tribology (4) 0742-4787 (ASME, New York)

J Turbomachinery Journal of Turbomachinery (4) 0889-504X (ASME, New York)

J Vib Acoust Journal of Vibration and Acoustics (4) 1048-9002 (ASME, New York)

J Vib and Control Journal of Vibration and Control (4) 1077-5463 (Sage Pub, Thousands Oaks, CA)

J Vib Eng Journal of Vibration Engineering (4) 1004-4523 (Nanjing Univ Aeronaut Astronaut, China)

J Wind Eng Indust Aerodyn Journal of Wind Engineering and Industrial Aerodynamics (12) 0167-6105 (Elsevier Sci RV. Netherlands)

JSME Int J Ser A

JSME International Journal Series A:
Mechanics and Material Engineering (4)
1340-8046 (Japan Soc Mech Eng, Tokyo)

JSME Int J Ser B JSME International Journal Series B: Fluids and Thermal Engineering (4) 1340-8054 (Japan Soc Mech Eng, Tokyo)

JSME Int J Ser C
JSME International Journal Series C:
Dynamic, Control Robotics, Design and
Manufacturing (4) 1340-8062 (Japan Soc

Mech Eng, Tokyo)

Machine Dyn Prob

Machine Dynamics Problems 0239-7730

(Warsaw Univ of Tech, Warsaw, Poland)

Machine Graphics & Vision Machine Graphics & Vision (4) 1230-0535 (Inst of Comput Sci, Poland)

Manuf Rev Manufacturing Review (4) 0896-1611 (ASME, NJ)

Marine Struct
Marine Structures: Design, Construction,
and Safety (6) 0951-8339 (Elsevier Sci,

and Safety (6) 0951-8339 (Elsevier Sci, UK)
Marine Tech Trans

Marine Technology Transactions 1230-2341 (Polska Akademia Nauk, Poland)

Matematyka Stosowana Matematyka Stosowana Appl Math 0137-2890 (Polish Math Soc, Warsawa Poland)

Mat Manuf Processes

Materials and Manufacturing Processes (6)
1042-6914 (Marcel Dekker, New York)

Mat Struct
Materials and Structures (10) 0025-5432 (E and FN Spon, UK)

Mat Eval Materials Evaluation (12) 0025-5327 (ASNT, Columbus OH)

Math Eng Industry Mathematical Engineering in Industry (4) 0169-121X (VSP, Netherlands) Math Methods Appl Sci Mathematical Methods in the Applied Sciences (15) 0170-4214 (Wiley, UK)

Math Models & Methods Appl Sci Mathematical Models & Methods In Applied Sciences (6) 0218-2025 (World Sci Pub, Singapore)

Math Comput

Mathematics of Computation (4) 0025-5718

(Am Math Soc, Providence RI)

Math Control Signals Syst Mathematics of Control, Signals, and Systems (3) 0932-4194 (Springer, New York)

Mec Appl Mecanique Appliquee (Engl, Fr, Russ, Ger) (6) 0035-4074 (Editura Acad, Bucharest) Meccanica

Meccanica (6) 0025-6455 (Kluwer, Netherlands)

Mech Syst Signal Processing Mechanical Systems and Signal Processing (6) 0888-3270 (Academic, UK) Mech of Composite Mat Mechanics of Composite Materials (6)

0203-1272 (Latvian Acad Sci, Rep of Latvia) Mech Composite Mat Struct

Mechanics of Composite Materials and Structures 1075-9417 (Wiley, New York) Mech Mat

Mechanics of Materials (12) 0167-6636 (Elsevier Sci BV, Netherlands) Mech Solids

Mechanics of Solids (transl from Russian "Mekhanika Tverdogo Tela") (6) 0025-6544 (Allerton, New York)

Mech Struct Machines Mechanics of Structures and Machines (4) 0890-5452 (Marcel Dekker, New York)

Mech Res Commun Mechanics Research Communications (6) 0093-6413 (Pergamon, Tarrytown, NY)

Mech Machine Theory Mechanism and Machine Theory (6) 0094-114X (Pergamon, Elmsford NY)

Mechatronics Mechatronics (6) 0957-4158 (Pergamon, Elmsford NY)

Med Eng Phys Medical Engineering Physics (8) 1350-4533 (Butterworth, Woburn, MA)

Modal Analysis

Modal Analysis: The International Journal
of Analytical and Experimental Modal
Analysis (4) 1066-0763 (SEM, Bethel CT)

Model Ident Control Modeling, Identification and Control (4) 0332-7353 (Res Council Norway, Oslo

Model Simulation Mat Sci Eng Modelling and Simulation in Materials Science and Engineering (6) 0965-0393 (Inst Phys, UK)

Nanostruct Mat
Nanostructured Materials (12) 0965-9773
(Pergamon, Tarrytown, NY)

NDT&E Int
NDT&E International (6) 0963-8695
(Butterworth, UK)

Noise Control Eng J Noise Control Engineering Journal (6) 0736-2501 (INCT, Poughkeepsie NY)

Nondestruct Test Eval Nondestructive Testing and Evaluation (6) 1058-9759 (Gordon and Breach, New York)

Nonlinear Anal Nonlinear Analysis, Theory, Methods and Applications (24) 0362-546X (Pergamon, Tarrytown, NY)

Nonlinear Dyn Nonlinear Dynamics (8) 0924-090X (Kluwer, Netherlands) Nonlinear Vib Prob

Nonlinear Vibration Problems 0044-1597 (Polish Academy of Sciences, Warsaw, Poland)

**Nucl Eng Des** 

Nuclear Engineering and Design (24) 0029-5493 (Elsevier Sci SA, Switzerland)

Numer Heat Transfer A

Numerical Heat Transfer Part A:
Applications (8) 1040-7782 (Taylor &
Francis, Washington DC)

Numer Heat Transfer B Numerical Heat Transfer Part B: Fundamentals (8) 1040-7790 (Taylor & Francis, Washington DC) Numer Methods PDE

Numer Methods PDE Numerical Methods for Partial Differential Equations (6) 0749-159X (Wiley, New York)

Numer Math Numerische Mathematik (Engl, Fr, Ger) (12) 0029-599X (Springer-Verlag, New York)

Ocean Eng Ocean Engineering (6) 0029-8018 (Pergamon, Elmsford NY)

Oceanologia Oceanologia (2) 0078-3234 (Inst of Oceanology Polish Acad Sci, Poland)

Opt Lasers Eng
Optics and Lasers in Engineering (4) 01438166 (Elsevier Sci, UK)

Optimal Control Appl Methods Optimal Control Applications and Methods (4) 0143-2087 (Wiley, UK)

Papers Ship Res Inst Papers of Ship Research Institute (ir) 0495-775X (Ship Res Inst, Tokyo)

Particulate Sci Tech
Particulate Science and Technology (4)
0272-6351 (Hemisphere, New York)

Physica D Physica D: Nonlinear Phenomena (24) 0167-2789 (Elsevier Sci BV, Netherlands)

Phys Fluids Physics of Fluids (12) 1070-6631 (AIP, Woodbury, NY)

Planet Space Sci Planetary and Space Science (12) 0032-0633 (Pergamon, Elmsford NY)

Powder Tech Powder Technology (12) 0032-5910 (Elsevier Sci, New York)

Prace Inst Maszyn Przepływowych Prace Instytutu Maszyn Przepływowych 0079-3205 (Polska Akad Nauk, Poland)

Prikl Mekh (Appl Mech)
Prikladnaya Mekhanika (Applied
Mechanics) (12) 0032-8243 (Naukova
Dumka, Kiev)

Probab Eng Mech Probabilistic Engineering Mechanics (4) 0266-8920 (Elsevier, UK)

Proc JSCE
Proceedings of Japan Society of Civil
Engineers 0289-7806 (JSCE, Tokyo, Japan)
Proc Inst Mech Eng C

Proceedings of the Institution of Mechanical Engineers, Part C, Journal of Mechanical Engineering Science (4) 0954-4062 (MEP, Suffolk UK)

Proc Inst Mech Eng D
Proceedings of the Institution of Mechanical
Engineers, Part D, Journal of Automobile
Engineers in (A) 0934-4070 (AEE, Suffel)

Engineers, Part D, Journal of Automobile Engineering (4) 0954-4070 (MEP, Suffolk UK) Proc Inst Mech Eng E

Proceedings of the Institution of Mechanical Engineers, Part E, Journal of Process Mechanical Engineering (4) 0954-4089 (MEP, Suffolk UK)

Proc Inst Mech Eng F
Proceedings of the Institution of Mechanical
Engineers, Part F, Journal of Rail and Rapid
Transit (2) 0954-4097 (MEP, Suffolk UK)

Proc Inst Mech Eng A

Proceedings of the Institution of Mechanical Engineers, Part A, Journal of Power and Energy (4) 0957-6509 (MEP, Suffolk UK)

Proc Inst Mech Eng J: Eng Trib Proceedings of the Institution of Mechanical Engineers, Part J: Journal of Engineering Tribology (4) 1330-6501 (1 Mech E, UK)

Proc Inst Mech Eng J Aerospace Eng Proceedings of the Institution of Mechanical Engineers Part G: Journal of Aerospace Engineering (2) 0954-4100 (1 Mech E, UK)

Proc R Soc London A
Proceedings of the Royal Society of
London, Series A, Mathematical and
Physical Sciences (12) 0080-4630
(Scholium, Pt Washington, NY)

Processing Adv Mat Processing of Advanced Materials (4) 0960-3158 (Chapman and Hall, New York)

Proc Inst Mech Eng J Eng Manuf Proc Inst Mech Eng B: Journal of Engineering Manufacture (4) 0954-4054 (MEP, Suffolk UK)

Prog Aerospace Sci Progress in Aerospace Science (4) 0376-0421 (Pergamon, Elmsford NY)

Prog Energy Combust Sci Progress in Energy and Combustion Science (4) 0360-1285 (Pergamon, Oxford)

Publications of the Univ of Miskolc Publications of the University of Miskolc Series C Mechanical Engineering 0237-6016 (Univ Miskolc, Miskolc, Hungary)

Pure Appl Geophys Pure and Applied Geophysics (12) 0033-4553 (Birkhauser, Switzerland)

Quart J Mech Appl Math Quarterly Journal of Mechanics and Applied Mathematics (4) 0033-5614 (Oxford UP, New York)

Quart J R Meteorol Soc Quarterly Journal of the Royal Meteorological Society (4) (R Meteorol Soc, Reading, Berkshire UK)

Quart Appl Math
Quarterly of Applied Mathematics (4) 0033-569X (Am Math Soc, Providence RI)

Rech Aerospatiale
Recherche Aerospatiale (Engl edition) (6)
0379-380X (Office Natl d'Etudes
Recherches Aerospatiales, Chatillon,

France)
Rep Res Inst Appl Mech
Report of Research, Institute for Applied
Mechanics (4) 0023-6195 (Res Inst Appl

Mech Kyushu Univ, Kasuga, Japan)
Reports Math Phys
Reports on Mathematical Physics (6) 00344877 (Pergamon, Tarrytown, NY)

Res Nondestructive Eval Research in Nondestructive Evaluation (4) 0934-9847 (Springer-Verlag, New York)

Rev Powder Metall Phys Ceramics Reviews on Powder Metallurgy and Physical Ceramics (4) 0379-0002 (Elsevier, New York)

New York)

Rev Francaise Mec
Revue Francaise de Mecanique (4) 03736601 (Soc Francaise Mec, Paris)

Rev Generale Thermique Revue Generale de Thermique (Fr) (12) 0035-3159 (Editions Europeennes

0035-3159 (Editions Europeennes Thermique et Industrie, Paris) Rheol Acta

Rheologica Acta (6) 0035-4511 (Steinkopff Verlag, Darmstadt) Robotersysteme

Robotersysteme Journal of Autonomous Systems (4) 0178-0026 (Springer, New York)

Robotics Autonomous Syst Robotics Autonomous Systems (8) 0921-8890 (Elsevier, UK)

Rock Mech Rock Eng Rock Mechanics and Rock Engineering (4) 0723-2632 (IFS, Springer, New York) **Hydro-Tech Transactions** 

Rozprawy Hydro-Techniczne 0035-9394 (Polska Akademia Nauk, 80-953 Gdansk 5)

**Russian Aeronaut** 

Russian Aeronautics (transl) (4) 0364-8117 (Allerton, New York)

Sci Eng Comp Mat

Science and engineering of composite materials 0334-181X (Freund, London) Ship Tech Res

Ship Technology Research (Schiffstechnik) (4) 0937-7255 (Schiffshrts-Verlag, Hamburg, Germany)

Shock Vib

Shock and Vibration (6) 1070-9622 (Wiley,

Shock Vib Digest

Shock and Vibration Digest (6) 0583-1024 (Vib Inst, Willowbrook IL)

**Shock Waves** 

Shock Waves Int J (6) 0938-1287 (Springer-Verlag, New York)

SIAM J Appl Math

SIAM Journal on Applied Mathematics (6) 0036-1399 (SIAM, Phila, PA) SIAM J Control Optim

SIAM Journal on Control and Optimization (6) 0363-0129 (SIAM, Philadelphia) SIAM J Math Anal

SIAM Journal on Mathematical Analysis (6) 0036-1410 (SIAM, Phila, PA)

**SIAM J Numer Anal** 

SIAM Journal on Numerical Analysis (6) 0036-1429 (SIAM, Phila, PA)

**Smart Mat Struct** Smart Materials and Structures (4) 0964-

1726 (Inst Phys, UK) Soil Dyn Earthquake Eng

Soil Dynamics and Earthquake Engineering (6) 0267-7261 (Elsevier Sci, UK)

Solar Energy

Solar Energy (12) 0038-092X (Pergamon, Elmsford NY)

Sov J Contemp Eng Mech

Soviet Journal of Contemporary Engineering Mechanics (6) 0890-7358 (Allerton, New York)

**Stability Appl Anal Continuous** Media

Stability and Applied Analysis of Continuous Media (4) 1120-4222 (Pitagora Editrice, Bologna)

Stahlbau

Stahlbau 0038-9145 (Ernst & Sohn, Berlin)

Stavebnicky Casopis

Stavebnicky Casopis (Czech, Engl, Slovak: Building Journal) (10) 0039-078X (VEDA, Bratislava, Czechoslavakia)

Stochastic Hydrology Hydraul Stochastic Hydrology and Hydraulics (4) 0931-1955 (Springer-Verlag, Berlin)

St Petersburg Univ Mech Buil St Petersburg University Mechanics Bulletin 1068-8005 (Allerton, New York)

Strain

Strain 0039-2103 (British Soc Strain Measurement, Newcastle upon Tyne, UK)

Strojnicky Casopis

Strojnicky Casopis (Czech) (6) 0039-2472 (Slovak Acad Sci, Bratislava, Czechoslovakia)

Struct Eng Earthquake Eng Structural Engineering/Earthquake Engineering (2) 0289-8063 (Japan Soc of Civil Eng, Tokyo)

Struct Eng and Mech Structural Engineering and Mechanics (4) 1225-4568 (Techno-Press, Korea)

Struct Eng Review: An Int J Structural Engineering Review: An International Journal (4) 0952-5807 (Pergamon, Elmsford NY)

Struct Optim

Structural Optimization (8) 0934-4373 (Springer, Berlin)

Struct Safety

Structural Safety (4) 0167-4730 (Elsevier, New York)

Struct Build

Structures and Buildings (4) 0965-0911 (Telford, UK)

Stud Appl Math

Studies in Applied Mathematics (8) 0022-2526 (Elsevier, New York)

Surveys Geophys Surveys in Geophysics (6) 0169-3298 (Kluwer, Netherlands)

Syst Control Lett

Systems and Control Letters (15) 0167-6911 (Elsevier Sci BV, Netherlands)

Tech Mech

Technische Mechanik (4) 0232-3869 (Tech Univ, Magdeburg, GDR)

Tellus

Tellus (5) 0280-6495 (Munksgaard, Denmark)

Theor Appl Fracture Mech Theoretical and Applied Fracture Mech (6) 0167-8442 (Elsevier, Amsterdam)

Theor Appl Mech (Beograd)
Theoretical and Applied Mechanics
(Teorijska i Primenjena Mehanika) (1)
0350-2708 (Yugoslav Soc Mech,

Yugoslavia)

Theor Comput Fluid Dyn Theoretical and Computational Fluid Dynamics (6) 0935-4964 (Springer, NY)

Thermophys and Aeromech Thermophysics and Aeromechanics (4) 0869-8643 (Nauka, Russia)

Thin-Walled Struct Thin-Walled Structures (12) 0263-8231 (Elsevier Sci, UK)

Trans Can Soc Mech Eng Transactions of the Canadian Society for Mechanical Engineering (4) 0315-8977

(CSME, Edmonton) **Transport Porous Media** 

Transport in Porous Media (12) 0169-3913 (Nijhoff, Kluwer, Hingham MA)

Trib Int

Tribology International (8) 0301-679X (Elsevier Sci, UK)

Trib Letters

Tribology Letters 1023-8883 (Baltzer Sci Pub, Red Bank, NJ)

Trib Trans

Tribology Transactions (4) 0569-8197 (STLE, Park Ridge IL)

Turbulence

Turbulence (1) 0860-7222 (Thermal Machinery Inst, Czestochowa Poland)

**Utilitas Math** 

Utilitas Mathematica (6) 0315-3681 (Utilitas Mathematica, Winnipeg)

Vehicle Syst Dyn

Vehicle System Dynamics (10) 0042-3114 (Swets Zeitlinger, Netherlands)

Warme Stoffubertragung

Warme und Stoffubertragung (6) 0042-9929 (Springer, New York) **Wave Motion** 

Wave Motion (8) 0165-2125 (Elsevier Sci BV, Netherlands)

Waves in Random Media

Waves in Random Media (4) 0959-7171 (Inst Phys, UK)

Wear

Wear (10) 0043-1648 (Elsevier Sci SA,

Zagadnienia Eksploatacji Maszyn Zagdnienia Eksploatacji Maszyn 0137-5474 (Polish Academy of Sciences, Warsaw, Poland)

Zastosowania Matematyki Appl

Math

Zastosowania Matematyki Applicationes Mathematicae (4) 0044-1899 (Polish Academy of Sciences, Warsaw, Poland)

Z Angew Math Mech

Zeitschrift für Angewandte Mathematik und Mechanik (12) 0044-2267 (Akademie-Verlag, Berlin, Germany)

Z Angew Math Phys

Zeitschrift für Angewandte Mathematik und Physik (6) 0044-2275 (Birkhauser, Switzerland)

### AMR SUBJECT CLASSIFICATION SCHEME

### I FOUNDATIONS & BASIC METHODS

### **100 CONTINUUM MECHANICS**

General theory

Constitutive theory

Thermodynamic considerations D Modeling physical phenomena

### 102 FINITE ELEMENT METHODS

General theory Structural applications Other solid mechanics

lications

G Fluid mechanics applications

J Other applications

L Solution algorithms N Element development

### **104 FINITE DIFFERENCE** METHODS

General theory Solid mechanics applications

Fluid mechanics applications

Other applications

E Algorithms, grid development

## 106 OTHER COMPUTATIONAL METHODS IN MECHANICS

Boundary element method: General

B Boundary element method: Applications C Collocation, least-square, Galerkin, & related methods

Transform methods (incl FFT)

Hybrid and other methods (inverse transforms, Pade, etc.)

F Stochastic analysis G Asymptotic and perturbation methods

Variational methods

Algorithms and software development K Computer architectures,

systems, hardware

### II DYNAMICS & VIBRATION

### 150 KINEMATICS AND DYNAMICS

General theory Kinematics of rigid bodies and particles

D Dynamics of rigid bodies and particles F Multibody and variable mass

systems Deformable body dynamics

H Stability of motion

Gyrodynamics Nonlinear dynamics (incl chaos, bifurcation, fractals)
Computational techniques

Z Experimental techniques

### 152 VIBRATIONS OF SOLIDS (BASIC)

General theory

Linear theory Crystals

Stochastic effects, incl random excitation

F Damping, decay, and control of vibrations

Y Computational techniques

Z Experimental techniques

### **154 VIBRATIONS** (STRUCTURAL ELEMENTS)

Beams, columns, rods, bars Strings, cables, chains, ropes

Rings

Springs Membranes

G Plates H Shells

Plates and shells (thick)

Discs and blades

J Discs and blades
K Rotating shafts
(critical speed, balancing)
L Frames, trusses, and arches
M Sandwich materials

Composite materials Structural elements on foundations

P Complex systems Y Computational techniques Z Experimental techniques

### 156 VIBRATIONS (STRUCTURES)

B Buildings and foundations

Towers and chimneys

Bridges Hydraulic structures Marine structures

G Vehicles (incl locomotives)

Aircraft

J Spacecraft, spacestations K Machine elements L Machine tools

Rotating machines and

turbomachinery N Damping

Absorption Computational techniques Z Experimental techniques

### **158 WAVE MOTIONS IN SOLIDS**

General theory

Rods and beams, elastic Plates and shells, elastic

Infinite and semi-infinite

elastic media Structures, elastic

Surface waves

G Nonlinear motions H Plastic, viscoplastic waves

Viscoelastic waves

J Ultrasonic propagation K Anisotropic media L Layered and nonhomogeneous media

Granular and porous media Random waves or media

Absorption Reflection, refraction, diffraction, and scattering
Computational techniques

Z Experimental techniques

### 160 IMPACT ON SOLIDS

A General theory B Dynamic Dynamic contact problems

C Explosive loading D Electromagnetic loading Hypervelocity

Spallation and fracture Computational techniques Z Experimental techniques

**162 WAVES IN** INCOMPRESSIBLE FLUIDS

A General theory C Nonlinear, finite amplitude,

and solitary waves Gravity waves (incl breaking) Capillary waves and waves in thin films

H Reflection, refraction, diffraction,

scattering, absorption
J Pipes, ducts, channels (incl water hammer, surging, etc)

Rotating flows
Stratified flows, internal waves
Computational techniques

Z Experimental techniques

## 164 WAVES IN COMPRESSIBLE FLUIDS

General theory Expansion and compression Shock, sonic boom, blast Reflection, refraction, diffraction,

scattering, absorption
Other aspects of waves in
compressible fluids Computational techniques Z Experimental techniques

### 166 SOLID FLUID INTERACTIONS

A General theory B Nonlinear theory

External flow

Internal flow (incl sloshing) Vibration of structures in fluids

Interactions of waves with flexible structures

Flexible tanks and containers

I Pipes with flowing fluids
J Turbomachine blades excitation

K Ocean structures N Flutter and flutter R Buffeting, gusts, Flutter and flutter control

R Buffeting, gusts, turbulence effects T Aeroelasticity (incl aerothermoelasticity) Computational techniques Z Experimental techniques

## 168 ASTRONAUTICS (CELESTIAL & ORBITAL MECHANICS)

General theory Celestial mechanics Orbital mechanics

Stability and control

Other topics in astronautics Computational techniques

### Z Experimental techniques

170 EXPLOSIONS AND BALLISTICS

General theory Explosion, detonation,

deflagration Guns, ballistics Other related topics

Computational techniques Z Experimental techniques

### 172 ACOUSTICS

A General theory

Sound generation by moving surfaces Sound generation by flow

Sound waves in gases Sound waves in liquids (underwater acoustics) F Sound waves in solids

G Sound waves in nonhomogeneous, porous, or random media H Reflection, refraction, diffraction,

and scattering Acoustic properties of materials J Noise control and reduction (incl active control)

Computational techniques Z Experimental techniques

### III AUTOMATIC CONTROL

### 200 SYSTEMS THEORY AND DESIGN

Controllability, observability, realizability

Stability, robustness Identification and estimation

F Sensitivity G Filtering techniques

H Design methods
I Modeling and simulation
J Adaptive and learning systems

K Large scale systems Pattern recognition M Nonlinear systems

N Discrete systems
O Distributed parameter and

delayed systems Decentralized systems

Q Stochastic or fuzzy systems Y Computational techniques Z Experimental systems analysis

### 202 CONTROL SYSTEMS

General theory Optimization techniques and

algorithms Nonlinear systems

Discrete systems Distributed parameter and

delayed systems
Stochastic systems
Other control systems and techniques Y Computational techniques

## 204 SYSTEMS AND CONTROL

**APPLICATIONS** 

B Guidance, navigation, motion control Control of structures and

vehicles Process control

Power systems

Fluidic systems, pneumatics Digital and numerical control systems H Control components, sensors

Instrumentation, computer hardware

K Software, expert systems, artificial intelligence M Mechatronics (computer-integrated electromechanical

systems) P Microelectromechanics,

nanotechnology
R Fault diagnosis, failure detection, and isolation Other applications Z Experimental techniques

### 206 ROBOTICS

B End effectors Actuators (prime movers)

Locomotion (mobility)

Kinematics, dynamics F Sensors and controls

### 208 MANUFACTURING

B Product and process design E Systems design, integration, and control H Management and economics

### IV MECHANICS OF SOLIDS

### 250 ELASTICITY

A General theory

B Linear theory C Nonlinear and finite deformation problems D Three-dimensional problems

E Stress concentrations and singularities Elastic imperfections

(dislocations, etc)
G Variational and energy methods
H Contact problems and inclusions
I Anisotropic media

J Nonhomogeneous media K Residual stresses Y Computational techniques

#### **252 VISCOELASTICITY**

A General theory

B Linear theory C Nonlinear and finite deformation problems

F Creep G Stress relaxation

H Contact problems, inclusions, and other mechanisms Material characterization

K Anisotropic or nonhomogeneous

Computational techniques Z Experimental techniques

### 254 PLASTICITY AND VISCOPLASTICITY

A General theory C Nonlinear and finite

deformation problems

D Stress concentrations and singularities

Contact problems and inclusions Material characterization

F Material Characteristics
G Work hardening
H Cyclic and variable loading
I Visco- and elasto-plastic media

K Anisotropic and nonhomogeneous media Residual stress

M Physical theory (dislocations)
Y Computational techniques
Z Experimental techniques

#### 256 COMPOSITE MATERIAL MECHANICS

General theory Particulate media, incl cements Carbon fiber reinforced media
Other fiber reinforced media

Layered media Micromechanics

J Micromechanics
L Macroscopic characterization
N Dynamic behavior
Q Structural applications
T Ceramics, refractories, glasses
V Plastics, elastomers, rubbers
Y Computational techniques

Z Experimental techniques

## 258 CABLES, ROPES, BEAMS,

A General theory B Nonlinear and finite deformation problems

Strings, wires, chains
Ropes, cables, and belts
Beams (bending and torsion)
Beams on foundations

H Thin walled beams Anisotropic beams Nonhomogeneous beams

Nonuniform beams Curved beams and rings

Rotating shafts
Computational techniques
Experimental techniques

## 260 PLATES, SHELLS, MEMBRANES, etc

A General theory B Nonlinear and finite

deformation theory
Plates (flexure and torsion)
Shells (membrane theory)

Shells (bending theory) Anisotropic membranes,

plates, shells G Stiffened and sandwich

plates and shells H Plates and shells on foundations I Thick plates and shells J Inflatable membranes

K Rotating discs, blades, and

Y Computational techniques Z Experimental techniques

### 262 STRUCTURAL STABILITY (BUCKLING, POSTBUCKLING)

General theory Nonlinear and finite

deformation theory Postbuckling theory Imperfection sensitivity

Columns and beams Rings and arches

G Framed structures H Plates

Shells

J Pipes and pressure vessels K Stiffened and anisotropic

structures

L Dynamic stability
M Viscoelastic and creep buckling
N Plastic and elastoplastic buckling
Y Computational techniques Z Experimental techniques

## 264 ELECTROMAGNETO SOLID MECHANICS

B Continuum theory C Magnetoelasticity
D Electroelasticity

Piezoelectricity Elastic stability in electromagnetic fields

Mechanics of superconducting materials

Computational techniques Z Experimental techniques

### 266 SOIL MECHANICS (BASIC)

A General theory B Structure and classification

Constitutive relations and

models D Pore pressure, phase movement E Mechanical properties F Expansive clays G Consolidation, settlement,

and compaction H Soil and sand liquefaction I Rheological properties
J Plasticity, viscoelasticity,
and viscoplasticity

L Frost and permafrost Y Computational techniques Z Experimental techniques

### 268 SOIL MECHANICS (APPLIED)

**B Shallow foundations** 

Deep foundation, piles Machine foundations

E Anchoring F Stability G Earth dams, embankments H Lateral earth pressures
I Excavating and tunneling

J Highways, runways, railways K Trafficability L Mechanical and chemical stabilization, incl geotextiles Y Computational techniques Z Field testing and sampling

#### 270 ROCK MECHANICS

A General theory B Mechanical properties D Elasticity, viscoelasticity,

plasticity F Anisotropy and nonhomogeneity G Failure mechanisms

Rock strengthening (bolts, etc)

J Drilling K Comminution

(blasting, grinding, etc) Excavations (tunneling, etc) L Excavations (tunneling, exc Y Computational techniques Z Experimental techniques

### 272 MATERIALS PROCESSING

B Applications of plasticity theory C Forging D Extrusion

E Rolling Drawing

G Sheet metal forming and

stamping H Machining (incl NM)

I Grinding

J Casting K High deformation rate forming Residual stresses

Wrapping, laying-up (composite material) Powder metallurgy

Rapid solidification Microprocessing (eg by laser and ion beams)

T Ceramics, refractories, glasses V Plastics, elastomers, rubbers

### 274 FRACTURE AND DAMAGE **PROCESSES**

B Crack initiation Subcritical crack propagation

Dynamic processes Fatigue characteristics of

materials F Stress or strain life analysis of

Other aspects of fatigue H Corrosion and embrittlement I Fretting, wear, and erosion

J Creep K Ablation, spallation, delamination M Micromechanisms

Stochastic aspects
Computational techniques Experimental techniques

### 276 FRACTURE AND DAMAGE MECHANICS

General theory Linear elastic fracture mechanics Nonlinear elastic fracture

problems Stress intensity factor calculations E Viscoelastic problems F Crack tip plasticity problems G Residual strength Composites

Other anisotropic and nonhomogeneous media
Crack stability and branching
Impulsive loading and impact

Dynamic crack propagation Crack arrest or retardation

W Micromechanisms Computational techniques Z Experimental techniques

### 280 MATERIALS TESTING AND STRESS ANALYSIS

B Single and combined loadings G Determination of elastic

constants

oronsams
I Repeated loading (fatigue)
Dynamic loading (impact)
Thermal loading
C Creep, relaxation, and plastic
flow testing
Hardness, abrasion, and wear

testing

Optical nondestructive testing (NDT) Acoustic NDT

**Electrical NDT** Other techniques

### 282 STRUCTURES (BASIC)

A General theory B Limit design (shakedown) C Structural optimization

Active control, smart structures Probabilistic design

F Nonlinear theory G Reliability design H Concrete (reinforced)

J Sandwich structure
J Sandwich structure
J Sandwich structure
J Sandwich structure
J Sandwich structures
J Sandwich structures
J Sandwich 
Design codes

Y Computational techniques Z Experimental techniques

### 284 STRUCTURES (GROUND)

**B** Bridges

C Dams and spillways

**D** Tunnels E Frames, trusses, and arches G Buildings

J Other ground structures

## 286 STRUCTURES (OCEAN AND COASTAL)

Coastal structures

Marine applications
Offshore (fixed platforms, etc) Offshore, mobile

Underwater structures and

### 288 STRUCTURES (MOBILE)

B Ground vehicles (incl tires)

C Ships, submarines E Airplanes F Helicopters

G Lighter than air devices I Space vehicles, satellites,

spacestations J Deployable structures

### 290 STRUCTURES (CONTAINMENT)

B Pressure vessels (reactor vessels, etc)

C Boilers Heat exchangers E Composite vessels F Wirewound vessels Reinforced concrete vessels H Vessels under external pressure

J Pressurized components K Containers (tanks, silos, bins,

### 292 FRICTION AND WEAR

Friction Adhesion Wear (unintentional)

General theory

Contact fatigue
Thermomechanical effects **G Friction materials** 

Surface effects, topography, coatings
I Wear monitoring
Y Computational techniques

Z Experimental techniques

### 294 MACHINE ELEMENTS

B Belts, chains, and cables Cams D Springs, dampers E Couplings

Gears, gear trains, drives

I Gaskets, seals, etc

J Linkages L Hydraulic and pneumatic mechanisms M Hoisting devices P Other mechanisms (incl

micromechanisms) Y Computational techniques

#### 296 MACHINE DESIGN

B Synthesis and design C Balancing D Computer aided design (CAD)

E Optimized design F Kinematics of mechanisms G Dynamics of mechanisms H Elastodynamics of mechanisms I Reliability analysis and design Y Computational techniques

### 298 FASTENING AND JOINING

B Mechanical joints C Welding, brazing, and soldering D Interfacial bonding

### V MECHANICS OF FLUIDS

#### 350 RHEOLOGY

B Continuum theory C Kinetic and statistical theory D Non-Newtonian fluids

Dynamic properties (recoil and stress relaxation)

Volume viscosity G Normal stresses (second order)

H Flow birefringence
I Colloids and suspensions

J Liquid crystals K Structured continua Chemically reactive flows

Material characterization

and models Y Computational techniques Z Experimental techniques

### 352 HYDRAULICS

A General theory B Closed conduit flow C Open channel flow (incl hydraulic jumps) D Pipe losses (friction, geometry) E Unsteady flow

F Stratified flow **G** Obstructions

H Orifices, nozzles, valves, gates
Forces on hydraulic structures
J Wave loads on structures
K Stilling basins and
other energy dissipators
L Cavitation

Erosion, scouring, sediment transport Waterways

Estuaries Coasts, beaches, harbors Properties of liquids Ice transport

Computational techniques Z Experimental techniques

### 354 INCOMPRESSIBLE FLOW

General theory Irrotational flow

Rotational (nonviscous) flow,

D Viscous flow

Three-dimensional flow Low Reynolds number (incl creeping flow) Unsteady flow

H Secondary flow I Thermal convection flow J Stratified flow and free surface flow

Rotating flow or surfaces Nonequilibrium and chemical effects

O Flow around bodies P Surface tension flow (eg in low gravity environments)

R Non-Newtonian flow

Y Computational techniques

Z Experimental techniques

#### 356 COMPRESSIBLE FLOW

A General theory B Subsonic flow Transonic flow Supersonic flow Hypersonic flow Unsteady effects, vortices Viscous effects Internal flow problems Flow around bodies K Nonequilibrium and chemical effects

Thermal effects M Rotating fluids or surfaces

R Free surface flow Computational techniques Z Experimental techniques

#### 358 RAREFIED FLOW

B Kinetic theory Transition (incl slip)

D Free molecular flow E Gas surface interaction Flow in tubes and ducts (Knudsen flow)

G Multicomponents (gas mixtures) Y Computational techniques Z Experimental techniques

#### 360 MULTIPHASE FLOWS

A General theory Mixtures of liquid or gas with solid particles (eg slurries)

Liquid-gas mixture
Liquid-vapor mixture
Liquid drop formation
Bubble dynamics

G Froth flow and spray flow H Mixtures of liquid, gas, and solid particles

Filtering Y Computational techniques Z Experimental techniques

Higher order theory

## 362 WALL LAYERS (incl BOUNDARY LAYERS)

C Laminar layers D Turbulent layers E Transition and relaminarization

Compressible and

hypersonic layers Shock wave boundary layer interaction

Hinteraction
H Three-dimensional layers
I Unsteady layers
J Thermal boundary layers
K Non-Newtonian layers
M Separation and reattachment

Suction and injection Surface roughness Rotating fluids or surfaces Heat addition and cooling

Compliant wall Drag reduction

Non-equilibrium and chemical effects

Computational techniques Z Experimental techniques

## 364 INTERNAL FLOW (PIPE, CHANNEL, COUETTE)

**B** Laminar flow C Turbulent flow

D Transition and relaminarization

Unsteady flow Nonequilibrium and chemical effects

H Creeping flow I Swirling flow J Stratified flow

Rotating fluids or surfaces Heat addition

M Non-Newtonian flow N Roughness effect O Porous walls

Obstructions Secondary flow, effects of curvature

T Suction and injection Y Computational techniques Z Experimental techniques

#### 366 INTERNAL FLOW (INLETS, NOZZLES, DIFFUSERS, CASCADES)

B Steady flow C Unsteady flow E Nonequilibrium and chemical

effects

F Swirling flow G Secondary flow

H Non-Newtonian flow Separation and reattachment K Heat addition

L Suction and injection M Obstructions N Performance

Performance and optimization Computational techniques

Z Experimental techniques

### 368 FREE SHEAR LAYERS (MIX-ING LAYERS, JETS, WAKES, CAVITIES, PLUMES)

B Laminar incompressible Laminar compressible D Turbulent incompressible

Turbulent compressible Stratification

H Rotating fluids or surfaces I Jet-solid surface interaction J Jet-flow interaction

K Heat or mass addition Nonequilibrium and chemical effects

Y Computational techniques Z Experimental techniques

### **370 FLOW STABILITY**

A General theory B Solid bounds Solid boundary (internal flow) Solid boundary (external flow)

Nonlinear theory

Non-Newtonian flow H Nonequilibrium and chemical effects

I Pendant drops J Stratified flows

K Rotating flows or surfaces M Vortices P Free surfaces and interfaces

(eg jets) Computational techniques Z Experimental techniques

### **372 TURBULENCE**

General theory

Homogeneous or isotropic turbulence
Compressibility effects
Free shear layers

G Boundary layers H Pipe and channel flow

I Stratified flows J Rotating flows or surfaces K Non-Newtonian flow

Heat and mass transfer Geophysical turbulence

O Nonequilibrium and chemical effects P Intermittency and other flow structure

Modeling of turbulence Computational techniques Z Experimental techniques

### 374 ELECTROMAGNETO FLUID

AND PLASMA DYNAMICS A General theory D Flow in magnetic fields E Flow in electric fields

Heat transfer aspects Energy conversion, propulsion Computational techniques

Z Experimental techniques

## 376 NAVAL HYDROMECHANICS

A General theory

C Ship motions, resistance, performance G Ship stability and control I Ship propulsion

N Fluid dynamics effects

Y Computational techniques Z Experimental techniques

### 378 AERODYNAMICS

B Wings and airfoils

Lifting bodies Wing body combinations

G Lift, drag, stall H Interference I Performance

J Flight path and trajectories K Stability and control L Unsteady effects M Aerodynamic loads

N Icing
O Flight tests and instrumentation Hypervelocity launchers and instrumentation

Computational techniques Z Experimental techniques

### 380 MACHINERY **FLUID DYNAMICS**

**Fundamentals** Unsteady flow

and systems stability Turbines (gas and vapors) Turbines (hydraulic)

F Propellers in liquids

G Cavitation effects H Centrifugal fans, pumps, and compressors I Axial fans, pumps, compressors J Compressibility effects K Mixed flow fans, pumps, compressors
Rotor and inducer blading
Stator vanes, inlet guide vanes,

diffuser vanes Jet pumps and compressors Q Rotary compressors & pumps (roots, gears, screws, etc) R Propellers & helicopter rotors

T Other machinery Y Computational techniques Z Experimental techniques

### **382 LUBRICATION**

A General theory
B Boundary lubrication Hydrodynamic and hydrostatic lubrication

Elastohydrodynamic lubrication Liquid lubricants

F Gas lubricants H Other lubricants

J Thermal and thermoelastic effects

K Multiphase lubricants, cavitation, surface tension

Lubrication systems
Computational techniques Z Experimental techniques

### 384 FLOW MEASUREMENTS AND VISUALIZATION

Velocity

Acceleration Force and skin friction

Pressure Density G Concentration

H Mass flow Viscosity

Flow direction, vorticity Flow visualization Laser and other optical techniques

Q Wind and water tubes and tunnels V Other problems and techniques

### VI HEAT TRANSFER

### **400 THERMODYNAMICS**

B Thermodynamics E Statistical mechanics

L Thermodynamic properties of matter

S Temperature measurement and calorimetry

### 402 ONE PHASE CONVECTION

B Forced convection (external) C Forced convection (internal)

Natural convection (external) Natural convection (enclosures)

F Thermally unstable configurations

G Combined natural and forced convection H Separated flows

I Rotating fluids or surfaces J Low density flows K High speed flows L Non-Newtonian flows

Liquid metal flows

Chemical reactions
Unsteady flows
Transport mechanisms Porous media

Computational techniques Z Experimental techniques

B Nucleate pool boiling

C Nucleate pool boiling
C Pool boiling (peak heat flux)
D Pool boiling (minimum heat flux)
E Nucleate flow boiling (external)
F Flow boiling (internal)
G Flow boiling, peak heat flux
(internal)

(internal) H Flow boiling, peak heat flux (external)

I Film boiling (pool)
J Film boiling (flow)

K Mist flows

L Transition boiling M Condensation (static vapor) N Condensation (flowing vapor)

Evaporation

Surface tension effects Transient effects Solid-fluid flows

Electric field effects Porous media

Computational techniques Z Experimental techniques

### 406 CONDUCTION

A General theory

Steady problems Transient problems

Nonlinear theory Contact resistance Anisotropic media

Porous and granular material

H Multiphase media I Phase change (freezing, melting) Y Computational techniques Z Experimental techniques

#### 408 RADIATION & COMBINED MODES

B View factors C Theory of radiative properties D Interchange among surfaces

Participating media Combined radiation and convection

Combined radiation and conduction H Combined radiation, convection,

and conduction Computational techniques

### Z Experimental techniques

#### 410 DEVICES AND SYSTEMS

B Heat exchangers (recuperator) C Heat exchangers (regenerators) D Extended surfaces

Other augumentation techniques Heat pipes

G Drying and freezing H Insulation

I Environmental conditioning and control

Cooling towers

Thermal energy storage systems N Electronic equipment

### 412 THERMOMECHANICS OF SOLIDS

A General theory B Thermoelasticity

(steady and quasi-steady)
C Thermoelasticity (transient)
D Thermoelasticity (nonlinear) Inelastic thermomechanics

Thermomagnetic and thermoelectric effects

G Thermal shock H Thermal fatigue and stability

I Thermal wave propagation J Thermofracture mechanics Thermal stresses of solids

with phase change Composite materials Computational techniques Z Experimental techniques

### **414 MASS TRANSFER**

B Convection dominated transfer C Sublimation or ablation

Diffusion

Convection with diffusion Double diffusion and other combined effects

Chemical reaction

Injection or suction Porous media

J Transient effects Y Computational techniques Z Experimental techniques

#### 416 COMBUSTION

**B** Fundamentals Ignition (thermal and

heterogeneous)
D Laminar flame propagation
E Turbulent flame propagation,

flammability
F Flame stability and stabilization
G Combustion products, exhaust emissions

H Interaction of flames and surfaces I Kinetics and mechanisms

J Unsteady combustion and combustion acoustics Supersonic combustion

L Heterogeneous and multiphase combustion M Flame radiation

Combustors and afterburners Solid fuels

Liquid fuels

Oxidation and oxidizers Flame and fire

(spread and extinction) Combustion, flame,

and fire modeling Computational techniques Z Experimental techniques

### 418 PRIME MOVERS AND PROPULSION SYSTEMS

**B** Fundamentals

Performance D Steam engines and turbines E Internal combustion, positive

displacement engines F Free piston and wave engines G Gas turbines

H Rocket motors Jet and fanjet engines

J Ramjets K Nuclear power systems L lonic, electric,

and photonic propulsion

M Working fluids N Other devices

### VII EARTH SCIENCES

### **450 MICROMERITICS**

B Geometrical properties of solid particles

Mechanical and physical properties of solid particles

D Comminution of solids E Statics of solid particles F Dynamics of solid particles

Snow motion Characteristics of packings (pressured particles)

J Mechanical and physical pro-perties of atomized liquids Z Experimental techniques

### **452 POROUS MEDIA**

B Fundamentals of fluid flow C Seepage (incl pollutants)

D Multiphase flow in porous solids

E Unsteady flow F Fluidized beds

G Elastic behavior of fluid-filled solids H Dynamics of fluid-filled solids Thermodynamics, heat transfer,

and combustion K Reservoir engineering L Flow stability M Non-Newtonian fluids Y Computational techniques

Z Experimental techniques

### **454 GEOMECHANICS**

B Geomorphology C Tectonics

D Seismology E Earthquake prediction F Heat transfer aspects

G Vulcanology H Glaciology

**Gravity** Y Computational techniques Z Explorations, measurements

### **456 EARTHQUAKE MECHANICS**

B Seismicity (rate of occurrence) C Characteristics of strong

ground motion Geological criteria Soil-structure interaction

Structural response Design criteria

Seismic hydrodynamics **Tsunamis** Simulation

Computational techniques Z Experimental methods

### 458 HYDROLOGY, OCEAN-OLOGY, METEOROLOGY

B Hydrology C Physical oceanography (currents, waves, etc) Heat transfer in H and O

Computational techniques (H and O) Experimental

techniques (H and O) Physical meteorology

Atmospheric turbulence, storms Heat transfer in the atmosphere Atmospheric boundary layer,

terrain effects Applied meteorology (engineering applications, etc)
Computational techniques

in meteorology Z Experimental techniques in meteorology

### VIII ENERGY & ENVIRONMENT

#### **500 FOSSIL FUEL SYSTEMS**

B Geophysical aspects C Mining mechanics Oil and gas drilling mechanics

Oil and gas reservoir engineering Solid fuel comminution Solid fuel conversion

to liquid or gas fuel leat transfer and combustion problems

### **502 NUCLEAR SYSTEMS**

Dynamics and vibration aspects Structural mechanics aspects

Fracture mechanics aspects Ď E Fluid mechanics aspects

F Fluid structure interactions

G Transient behavior (loss of coolant accidents, etc)

### **404 TWO PHASE CONVECTION**

H Radiation interaction on materials

### **506 SOLAR AND OTHER ENERGY SYSTEMS**

B Solar collector mechanics

B Solar collector mechanics
D Solar heat transfer
F Other solar aspects
H Geothermal energy
J Wind, ocean, & hydro energy
L Other energy systems
N Energy storage
Q Energy distribution (incl pipelines, transmission lines, etc)

### **514 ENVIRONMENTAL MECHANICS**

B Dispersion by air and water F Snow and ice mechanics H Waste management, pollution

K Other environmental problems Y Computational techniques Z Experimental techniques

### IX BIOENGINEERING

**550 BIOMECHANICS** 

B Skeletal systems, bones, joints,

ligaments
C Muscle mechanics
D Kinesiology
E Mechanical properties
of tissues and blood

of tissues and blood
F Organs
G Microbiomechanics
H Transport phenomena (diffusion)
I Fluid mechanics of circulatory
systems & other body fluids
J Brain and spinal trauma
K Shock and vibration effects
L Heat transfer aspects
M Biopropulsion
P Biomaterials

Y Computational techniques Z Experimental techniques

## 552 HUMAN FACTORS, REHAB, SPORTS, ETC

B Human factors, ergonomics, man-machine interface, safety F Rehabilitation devices and controls

K Sports mechanics

### X GENERAL & **MISCELLANEOUS**

## KEYWORD INDEX TO SUBJECT CLASSIFICATION SCHEME

The codes below, such as 252, 102C, etc. refer to the Subject Classification Scheme (pp 456-460) and summarized on the back cover.

axial fans, pumps, compressors, fluid dynamics - 380I,380K axial loading, materials testing - 280B

### Α

ablation: fracture - 274K, mass transfer ion: materials test - 2800, wear

292D

absorption:, internal friction - 152F. noise control - 172J, structural vibrations - 156P, vibration damping -152F, waves in solids - 158O, waves in fluids - 162H, 164F

acceleration:, detonation - 170C, dy-namics of particles - 150D, measure-ment in flow - 384C, accidents -

acoustic, acoustics - 172, combustion - 416J, stress analysis - 280S, materials testing - 280S, nondestructive testing - 280S

acquisition systems, data - 200Z active control: noise - 172J, structures -

actuators, robotics - 206C adaptation, functional rehabilitation -552F

adaptive systems - 200J addition of heat to fluids, free shear layers - 368K, internal flow - 364L, 366K, wall layers - 362Q

- 292C, inadhesion:, friction and wear terfacial bonding - 298C aerodynamics - 378

aeroelasticity - 166T

aerospace:, systems and control - 204C, structures - 288I

aerothermoelasticity - 166T afterburners, combustion - 416O air., dispersion by - 514B, lighter than, devices - 288G

aircraft:, dynamics - 378, structures 288E, systems and control - 204C. vibrations - 156I

airfoils, aerodynamics - 378B algorithms: computational mechanics methods - 106l, finite element methods - 102L, difference methods -104E, optimal control systems - 202B

amplitude, finite: waves in incompress ible fluids - 162C analogies - modeling - 100D,2001 anchoring of soils - 268E

anisotropic beams - 2581 anisotropic media:, elasticity - 250I, heat transfer - 406F, plasticity -254K, viscoelasticity - 252K, viscoplasticity - 254K, waves in

solids - 158K

solus - 150c; membranes, plates, and shells - 260F, rock mechanics - 270F, structures, stability - 262K arches; stability - 262F, structural mechanics - 284E, vibrations - 154L architectures (computer):, computa-tional methods - 106K, manufactur-

ing - 208E arrest of cracks in fracture - 276K artificial intelligence:, manufacturing 208E, systems and control - 204K assembly, robots - 206H astronautics - 168

asymptotic computational methods - 106G

atmospheric:, dispersion - 514B, heat transfer - 458L, turbulence - 458K,

atomized liquids; multiphase flows - 360B-H, micromeritics - 450J attitude control and stabilization, astro-

nautics - 168K ugmentation techniques, heat transfer devices - 410E automatic control - III

baffling, acoustic - 172J balancing:, rotating machinery - 154K, design of machines - 296C ballistics - 170L

ballistics, explosions - 170A,P balls in sports - 552K bars: mechanics - 258, vibrations -154R

basins (stilling), hydraulics - 352K beaches, hydraulics - 352P

bearns:, elastic waves - 158B, mechan-ics - 258, stability, buckling - 262E, vibrations - 154B

bearings, machines - 294H beds (fluidized), porous media - 452F belts:, machine elements 294B, mechanics - 258E, vibrations - 154C

BEM, boundary element methods 106A, 106B bending: beams - 258F, shells - 260E biaxial loading, materials testing -

bifurcation, nonlinear dynamics - 150K bins, container structures

bio-energy systems - 506L bioengineering - IX biomass energy - 506L biomaterials - 550P biomechanics - 550 biopropulsion - 550M

biosciences - IX birefringence of flow in rheology - 350H

blades: rotating, turbomachinery -260K, excitation - 166J, rotors and inducers, fluid dynamics - 380L, vi-

brations - 154J blast waves, compressible fluids 164D, explosions - 170A,C,P blasting, comminution:, micromeritics -450D, rock mechanics - 270K, solid

fossil fuels - 500F

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